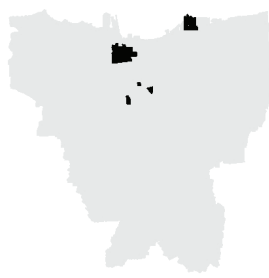




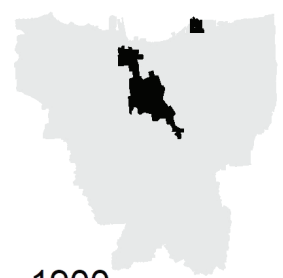
1770

0.42%



1800

1.07%



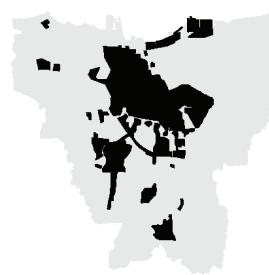
1900

4.41%



1945

6.04%



1965

18.12%



0 5 10 20

Kilometers

The growth of modern-planned city
Reproduced/modified from
DKI Jakarta Spatial Plan 1965-1985

Floods in (Post-) New Order Jakarta

A Political Ecology of Urbanization

Bosman Batubara





UNIVERSITY OF AMSTERDAM

Floods in (post-) New Order Jakarta

A political ecology of urbanization

Bosman Batubara



UNIVERSITEIT VAN AMSTERDAM

Floods in (post-) New Order Jakarta

A political ecology of urbanization

ACADEMISCHPROEFSCHRIFT

ter verkrijging van de graad van doctor

aan de Universiteit van Amsterdam

op gezag van de Rector Magnificus

prof. dr. ir. K.I.J. Maex

ten overstaan van een door het College voor Promoties ingestelde commissie,

in het openbaar te verdedigen in de Aula der Universiteit

op woensdag 8 juni 2022, te 14.00 uur

door Bosman Batubara

geboren te Tapanuli Selatan

Promotiecommissie

<i>Promotor:</i>	prof. dr. ir. M.Z. Zwarteveen	Universiteit van Amsterdam
<i>Copromotor:</i>	dr. M.E. Kooy	IHE Delft
<i>Overige leden:</i>	prof. dr. I.S.A. Baud	Universiteit van Amsterdam
	dr. G. Nooteboom	Universiteit van Amsterdam
	prof. dr. ir. E.A.M. Swyngedouw	University of Manchester
	prof. dr. R.K. Jaffe	Universiteit van Amsterdam
	prof. dr. A. Kusno	York University, Canada
	dr. R. Padawangi	Singapore University of Social Sciences

Faculteit der Maatschappij- en Gedragwetenschappen

This research was conducted under the auspices of the Graduate School for Socio-Economic and Natural Sciences of the Environment (SENSE) with financial assistance from Indonesia Endowment Fund for Education (LPDP).

© 2022, Bosman Batubara

Although all care is taken to ensure integrity and the quality of this publication and the information herein, no responsibility is assumed by the publishers, the author nor IHE Delft for any damage to the property or persons as a result of operation or use of this publication and/or the information contained herein.

*A pdf version of this work will be made available as Open Access via
<https://ihedelftrepository.contentdm.oclc.org/> This version is licensed under the
Creative Commons Attribution-Non Commercial 4.0 International License,
<http://creativecommons.org/licenses/by-nc/4.0/>*

Published by IHE Delft Institute for Water Education
www.un-ihe.org

ISBN 978-90-73445-41-3

To life

ACKNOWLEDGMENTS

I deeply believe that work such as this of mine, comes not from my genius, but as a result of collective works. Without working hours of many, this thesis would have never been as the way it stands. Some I remember, some I don't. Forgive me. I would like to thank to my supervisor, Margreet Zwarteveen, for continuously confronting me with critical views/discussions from the day one all the way to the end of my work. Your suggestions to be explicit, to spell out my analysis and put it on paper, but at the same time to make all the complexities as simple, modest, and as material/operational as possible, avoiding jargons, to be humble and respect the sociospatial/socionatural situatedness, all are helpful to throw out this thesis from my interior, and with that shape not only my work but also me as a human. My co-supervisor, Michelle Kooy, whose thesis about more-than groundwater in Jakarta I encountered years ago helped the self-change of me from geological/water resources engineer whose academic head was mostly occupied by rocks/water and soft-wares to the-now me whose head is almost fully occupied by socionatural/sociospatial unevenness (and capitalism), for the patient of accompanying me through routine discussion from the start to the end of my doctoral programme; thank you for re-spatializing me – deepening and widening my world/horizon/perspective, helping the transformation of my inner ontology from my engineering bubble with 'solutions' into more dynamics 'social scientist' kind-of but no less empirical. That helps to make sense the external to my view. To Margreet and Michelle, thank you for editing my English throughout the review cycle. My thesis committee, Yves Van Leynseele, for all the critical comments in proposal defence, to suggest me to have more robust methodology, to continuously remind me about my study time in annual evaluation, and of course, the eagerness and endurance in co-authoring article. All are helpful; stabilize me at the time of being destabilized.

My thank goes also to my proposal external reviewers, Rita Padawangi and Rivke Jaffe, who provided powerful suggestions for my research proposal; and Rita in particular, for kept asking where am I in terms of my thesis. The same thank goes to Charlotte de Fraiture who was acting as observer in my proposal defence. Indonesia Endowment Fund for Education (LPDP) for my doctoral scholarship. Prathiwi Widyatmi Putri, Rachel Thompson, and Emma Louise Colven for sharing information and discussion about Jakarta. To I.S.A. Baud, Erik Swyngedouw, Gerben Nooteboom, Abidin Kusno, and (again) Rita Padawangi and Rivke Jaffe for being the committee members of my final examination. Thank you all.

In the Netherlands, I would like to thank to all of colleagues at Water Governance Department at IHE-Delft, Akosua Boakye-Ansah, Adriano Biza, Natalia Reyes Tejada, Shahnoor Hasan, Irene Leonardelli, Tatiana Acevedo Guerrero, Hermen Smit, Jeltsje Kemerink-Seyoum, Emanuele Fantini, Klaas Schwartz, Zaki Shubber, Jaap Evers, Rozemarijn ter Horst, and Jenniver Sehring for labouring to discuss many drafts (proposal

and article) of mine. My thank goes to all of 2015 CERES classmates for all the shared questions/ideas and confusions of how to formulate research questions: Anne de Leeuw, Annie Siraj, Anouk Baron, Anushiya Shrestha, Charles Ubagwu, Christina Schiavoni, Elizabeth Ngutuku, Emile Smidt, Francine van den Brandeler, Helen Francis, Julia Knoeff, Kazi Farid, Kwabena Owusu Asubonteng, Kwalu Dede, Libby Lahar, Lize Swartz, Francisca Lopez Regalado, Malin Olofsson, Martha Ataa Kakra, Martha Jane Robbins, Melvin van der Veen, Merel van 't Wout, Kaala Moombe, Nicco Plamonia, Niels Terpstra, Salena Tramel, Samson Foli, Wajid Hasan Shah, Woldetsadik Wondemagega, Yazid Zahda, and Zuzana Novakova. My thank goes to Joyeeta Gupta, Jolanda Boots and Anique Karsten for helping me to settle in UvA and IHE-Delft and to finish this work.

In Jakarta, my thank goes to Gugun Muhammad and the family, in whose house I slept many times and who introduced me to Bukti Duri's person, Ratna (and the family), to whom I send my thank for hosting my first day in Bukit Duri and introduced me to Tante Irma to rent a room in their house for my stay in Bukit Duri. The same goes to all of Ciliwung Merdeka activists (Sandyawan Soemardi, Vera WS Soemarwi, Ivanna, Ariel, Muklish, Sri Suryani) for inviting me to many workshops and ceremonies organized by Ciliwung Merdeka. To my research collaborator in Jakarta, Ari Ujianto. To all of Urban Poor Consortium/Urban Poor Linkage people and affiliation (Wardah Hafidz, Andi, Siti May, Pak Sekjend, Herlily, Mas Bagus, and Yantri). Mbak Lita at Jala PRT, for comfortable place at Kalibata Utara for me to sit and discuss my research with Ari. To all people at Save Jakarta Bay Coalition (some of them: Marthin Hadiwinata, Evi Mariani, Arieska Kurniawaty, Tigor Hutapea, Neslon Simamora, Muslim Muin, Ivan, Sukma Widyanti, Rieza Patters, Henny Warsilah) for sharing so many about the social movement resisting land reclamation in Jakarta. Elisa Sutanudjaja, Dian, Amel, and Marco Kusumawijaya (Rujak Centre for Urban Studies), Yance Arizona (Epistema Institute), Edi Jampez (and all Java forest experts at Arupa, this one is in Yogyakarta) for discussing my early ideas. Bang Asun (Ciliwung Institute), for endless discussion about Ciliwung River. People from Sayogyo Institute (Eko Cahyono, Noer Fauzi Rachman, Shoibuddin Fatar, and Ahmad Nashih Luthfi) for discussion about agrarian conflicts. Hendro Sangkoyo from whom, I guess for the first time I heard the phrase of “socio-ecological crises” (the *krisis sosial-ekologis*) long time ago. Harry Wibowo for access to *Prisma*'s collection. Setri Yasra for allowing me to use *Tempo Magazine*'s cartoon. Mokh. Sobirin for discussion about karst/cement mining Pati, Central Java. JJ Rijal, for discussion about Jakarta/Betawi. And all members of "Jakarta-based" Whatsapp groups for day-and-night on-line conversation about Jakarta. To Muhammad Reza Sahib of KRuHA for insightful opinion about water rights.

To Anett Keller, Yvone, and Alex Flor for discussions about the relation between Indonesia's and German's activists as well as hosting me in Berlin and Bremen. Thank you. To Yogyakarta and Semarang people (Saut Situmorang, Dwi Cipta, Mahfud Ikhwan, Hairus Salim, Kang Putu, Bagas et al., Wakgeng et al., and all of STKS members) for

endless discussion about how everything are related to everything else. Also, thank you to all the people at ‘reading group’.

In Central Java, I would particularly like to thank Pak Untung and the family for letting me stay in their house for my fieldwork in Kedungwringin, Central Java. To the head of village (Pak Lurah), and all of the villagers, especially for the village's football players for letting me play in villages’ competition (*tarkam*). My special gratitude goes to my comrades, Seniman Martodikromo and Kang Sunu Wiromartan (and their families and all the comrades in Urutsewu, Kebumen); Seniman in particular for accompanying me at the first time I went to Kedungwringin; never in my life I disbelief that one day we will win our battle against the army.

To Jun Borrás of The Hague Institute of Social Science and all of the organizers and participants at Journal of Peasant Studies, College of Humanities and Development Studies of China Agricultural University and Future Agricultures Consortium 2019 scholar-activist writeshop-workshop in Beijing, through whom I encountered what agrarian questions/studies is all about in an academic conversation. Specifically in this crowd, my gratitude goes to Venkat Ramanujam (my room pal in Beijing), who caught grammatical and stylistic errors in my article drafts. All the Ground Up research consortium members (Amalinda Savirani, Nila Ardhiani, Wigke Capri, Marie Belland, Wijanto Hadipuro, Cornel Gea et al.) thank you for your understanding of working together with someone like me whose mind was occupied by thesis.

To my family for not asking too much about what I am doing. That helps. There are times when you all did not agree with my decisions, and I did not take your suggestions. But this is how I see it: difference is part of us as a family. To my girlfriend, Melati Yustika, thank you for the love.

If in whatsoever ways this work of mine, as well as me as a person, are not satisfying for whoever, it has nothing to do with all of those abovementioned people, here I am asking for forgiveness.

SUMMARY

The capital city province of Indonesia, Jakarta, lies in an estuarine area with 13 rivers flowing from the southern mountains across the city into the sea. This geographical location means that part of the city has always been covered with water, as either rivers flood their banks and cover settled areas of the city, or tidal rhythms bring water back up from the sea through the rivers into the city. Combined with the continuous lowering of the city through land subsidence, this means the city is extremely vulnerable to floods.

This thesis aims to inform critical thinking of and acting on flood events and flood infrastructure development in Jakarta, to call attention to how they are deeply political. I set out to explain how both the increase in the frequency of flood events in Jakarta since the 1960s and infrastructural responses to it are intimately related to the ways in which society and the economy were organized and governed – since the New Order developmentalist regime. To do this, I articulate how flood events and flood infrastructures are part of a particular process of urbanization. Specifically, I trace how the occurrence of flooding and the development of flood infrastructure in contemporary Jakarta are partly the result of, and in turn help to create a particular trajectory of (post-) New Order regime (1965-1998 and 1998-now) urbanization. I document how this urbanization has, and continues to, proceed unevenly: benefiting some people and spaces of the city and non-city by sacrificing others.

I develop a ‘political ecology of urbanization’ (PEU) explanatory framework and mobilize an ‘ecologized dialectical method’. The latter is useful both to liberate my life-forms (spontaneity, creativity, imagination) from the cage of my own works/findings and, together with the former, to answer my overall research question: *How are flood events and interventions related to uneven urbanization of (post-) New Order Jakarta?* The two sub-questions I set out to answer are: (1) *How are flood events produced by and productive of uneven urbanization in Jakarta and beyond;* and (2) *How are infrastructural interventions for managing floods reproducing unevenness under the (post-) New Order?*

PEU helps to explain how Jakarta’s flooding involves beyond-the-city uneven processes of upland to lowland water flows, of city’s population density explosion related to rural-to-urban migration triggered by rural land dispossession, and of materials extraction in the non-city to develop flood infrastructures of the city. I refer to these more-than-city reconfigurations as sociospatial moment. PEU helps to explain how Jakarta’s flooding is intimately interrelated with the depletion of groundwater and land subsidence, provoked by uneven societal or human actions. I refer to these more-than-human transformations as socionatural moment. Therefore, PEU theoretically explores and makes sense Jakarta’s urbanization as simultaneously comprising a sociospatial and socionatural moment,

without losing sight of the moment of unevenness. With the help of PEU, this thesis repoliticizes, and opens possibilities on how to think through and confront, the uneven urbanization of (post-) New Order regime in its relation to the production of Jakarta's flood events and flood infrastructures development involving human and nonhuman in the city and beyond, above and below ground.

SAMENVATTING

Yves Van Leynseele translated summary into samenvatting.

Overstromingen in (post-) Suharto-regime Jakarta: Een politiek-ecologische analyse van urbanisatie

De hoofdstad van Indonesië, Jakarta, ligt in een estuariene gebied met 13 rivieren die stromen vanuit de zuidelijke bergen naar de stad. Door deze ligging bevinden grote delen van de stad zich onderwater als gevolg van overstromingen, eb en tij bewegingen en landverzakkingen.

Dit proefschrift ontwikkelt een kritische benadering om overstromingen en gerelateerde infrastructurele interventies in Jakarta te onderzoeken en collectieve actie tegen de negatieve effecten ervan te initiëren. Het analyseert de wijze waarop de toename van overstromingen sinds de jaren 1960 tezamen met de infrastructurele interventies om dezen tegen te gaan, zich verhouden tot de organisatie van de maatschappij en de economie vanaf de start van het Suharto-regime. Het illustreert hoe overstromingen en overstromings-infrastructureel deel uitmaken van een proces van urbanisatie. Dit proces is zichtbaar in hedendaags Jakarta, en is zowel gevormd door als vormend geweest voor de specifieke urbanisatie dat zich ontvouwde in de periodes van 1965 tot 1998 en 1998 tot nu. Een gedetailleerde analyse van deze urbanisatie toont aan hoe het ongelijkheid produceert: bepaalde bevolkingsgroepen en plekken in stad en platteland worden bevoorrecht door anderen op te offeren.

In theoretische zin, bouwt het proefschrift voort en ontwikkelt een politieke ecologie van urbanisatie (PEU) met gebruik van een zogenaamde ecologisch-dialectische methodologie. Deze theoretische en methodologische insteek maakten het voor de auteur mogelijk persoonlijke levensfuncties (spontaniteit, creativiteit en verbeelding) te kunnen bevrijden van zelfopgelegde kaders, ten einde de volgende hoofdvraag te beantwoorden: Hoe verhouden overstromingen en gerelateerde interventies zich tot de ongelijkmatige urbanisatie in het (post) Suharto tijdperk? Daarbij werden de volgende sub-vragen beantwoord: (1) Op welke wijze worden overstromingen geproduceerd door en/of resulteren ze uit ongelijkmatige processen van urbanisatie?; en (2) Op welke wijze reproduceren infrastructurele overstromings-interventies ongelijkmatige processen van urbanisatie?

De toepassing van PEU laat zien hoe de ongelijkheid in Jakarta een verbinding tussen stad en platteland impliceert door middel van laagland-hoogland rivier stromen, stedelijke bevolkingsexplosie als gevolg van rurale landonteigening en het aanwenden van (natuurlijke) hulpbronnen uit rurale gebieden voor stedelijke overstromings-infrastructureel. Deze ‘voorbij-de-stad’ (‘more-than-city’) configuraties worden in dit proefschrift gedefinieerd als sociaalruimtelijk moment. Een tweede relationeel aspect dat door de PEU lens bekeken werd is het verband tussen overstromingen enerzijds en

uitputting van grondwater en bodemdaling anderzijds. Deze laatste ‘voorbij-de-stad’ transformatie wordt gedefinieerd als sociaalnatuurlijk moment. De urbanisatie in Jakarta ontvouwt zich dusdanig als een simultaan sociaalruimtelijk- en sociaalnatuurlijk moment. PEU laat dusdanig zien hoe natuurlijke en menselijke processen verstrengeld zijn, boven en ondergronds, en her-politiseert de ongelijke stedelijke urbanisatie op een originele en confronterende wijze.

CONTENTS

Acknowledgments.....	vii
Summary	xi
Samenvatting.....	xiii
Contents.....	xv
1 Questioning floods in Jakarta's uneven urbanization	1
1.1 What is your solution to flooding?.....	1
1.1.1 Flood-society interactions	2
1.1.2 Types of floods	3
1.1.3 Managing floods	3
1.1.4 Floods are political	4
1.2 Floods and urbanization in Jakarta	7
1.3 New Order: political economic context of Jakarta's urbanization and its unevenness.....	10
1.4 How have the Jakarta's floods been studied?	13
1.5 Main research questions.....	14
1.6 Existential and personal underground question	15
1.7 Organization of this thesis	19
2 Explanatory framework and method.....	23
2.1 Explanatory framework: political ecology of urbanization	23
2.1.1 How to make sense of urbanization as consisting of sociospatial and socionatural moments that produce unevenness?	23
2.1.2 Moment of unevenness	26
2.1.3 Sociospatial moment	30
2.1.4 Society-nature moment.....	32
2.1.5 Dialectics of uneven and situated more-than-human and more-than-city	36
2.2 Ecologized dialectical method	37
3 Extended agrarian question in concessionary capitalism: Jakarta's <i>Kaum Miskin Kota</i>.....	45
3.1 Explosion of urbanization theory and openings to recalibrate agrarian question	46
3.2 Theoretical conversation: concessionary capitalism for agrarian question of land and labour	48
3.3 Agrarian question of land: large scale concessions through primitive accumulation.....	51

3.4	Agrarian question of labour: rural-to-urban migration	55
3.5	Extended agrarian question: the explosion and eviction of <i>KMK</i>	56
3.6	Political project: opens possibilities for alliance-building.....	58
4	Urbanization in (post-) New Order Indonesia: connecting unevenness in the city with that in the countryside	61
4.1	Connecting unevenness in the city with that in the country	62
4.2	Connecting the city with the countryside: insights from urbanization studies and critical agrarian studies	64
4.3	Methodology: reconstructing and tracing urban marginalization to the countryside.....	67
4.4	Sociospatial reconfigurations under/through New Order	69
4.5	Socionatural transformations under/through New Order.....	72
4.6	Connecting country to city: sociospatial and socionatural differentiation.....	74
4.7	Conclusion: connecting rural and urban struggles.....	76
5	Politicising land subsidence in Jakarta: how land subsidence is the outcome of uneven sociospatial and socionatural processes of capitalist urbanization.....	79
5.1	The sinking city: politicising Jakarta's land subsidence.....	80
5.2	Methodology: operationalizing socionatures.....	84
5.3	Weight of the built environment: concentrated capitalist urbanization	87
5.4	Extraction of groundwater: extended capitalist urbanization	89
5.5	Conclusion/discussion: re-imagining a more sustainable and just	93
6	Uneven urbanisation: connecting flows of water to flows of labour and capital through Jakarta's flood infrastructure	95
6.1	Preventing whose city from flooding?	96
6.2	Methodology	98
6.3	Dialogue between uneven development and the political ecology of urbanisation 100	
6.4	Uneven urbanisation: the production of flood events and the development of flood infrastructures.....	103
6.4.1	The production of flood events: New Order urbanisation and flooding.	103
6.4.2	The development of flood infrastructure: CRN to reduce river flooding	105
6.4.3	The development of flood infrastructure: NCICD to reduce coastal flooding 107	
6.5	Conclusion: emancipatory promise of uneven urbanisation.....	111
7	Collective actions.....	115
	References	123
	Annexes.....	155
	List of Tables.....	175

List of Figures	177
About the author.....	179
Journals publications	181
Sense Certificate	182

1

QUESTIONING FLOODS IN JAKARTA'S UNEVEN URBANIZATION

1.1 WHAT IS YOUR SOLUTION TO FLOODING?

Jakarta is a notable site of urban flooding. The coastal area of which the city of Jakarta forms part has always been vulnerable to floods, from before it was colonized (Milone, 1967: 75) as well as during (Gunawan, 2010; Kanumoyoso, 2011; Blackburn, 2012), and after Dutch colonialization (Padawangi and Douglass, 2015). This area is crisscrossed by 13 rivers which flow from the volcanoes of Pangrango, Salak, and Gede in the South and end in Jakarta Bay (Verstappen, 1953; van Bemmelen, 1949). The Dutch harbored this area in the early 17th century and developed it into a commercial center. They built a fortress, a castle, and housing, and equipped the city with a network of canals. The buildings and canals that formed a European-style planned city radically altered the waterscape, rupturing the “resilience” of the “organic” kampungs to “varying socio-ecological conditions” (Putri, 2019: 805), and exacerbating the vulnerability of this area to flood risk (Gunawan, 2010). The rivers and canals are water conveyors. Flooding occurs in some parts of the city when the water surpasses the capacity of the conveyors. Chances of this happening increase because of how the canals easily clog with sediments (Poerbandono, Julian, and Ward, 2014).

In recent years, the frequency of flooding is increasing (Colven, 2018: 4). In 1892 (the highest in 1890s), only two flood events were recorded for the whole year, but the number of yearly floods has become higher ever since (Gunawan, 2010: 208). In the 1960s, the highest number of recorded floodings in Jakarta was five times a year (Gunawan, 2010:

208).¹ In 2010 alone (the highest in 2000s), the number was 11 times per year (Padawangi and Douglass, 2015).² This pattern reveals that around every 60 years the annual frequency of flooding doubles. This cannot be attributed to heavier rains: the analysis of total monthly rainfall from 1860 until 2007 shows a “horizontal” (Brinkman and Marco, 2009: 4) trend line. The horizontal trend line, according to Brinkman and Marco (2009: 5), means that “statements about climate change being the cause of the floods problems cannot be proven with the current available data.” Brinkman and Marco (2009: 5)’s rainfall analysis forms an important starting point of this thesis, which sets out to search for explanations of flooding beyond rainfall or climate change.

1.1.1 Flood-society interactions

Hence, my search starts by positing that flood events are not only about water or rain (belonging to the domain of nature/the non-human), but are always simultaneously human-made – or happen because of entanglements between nature and society. The behavior of people affects the behavior of water and vice versa. As for the first, human development affects the behavior of water catchments among others by changing the interception capacity of forest canopy, the rate of water percolation into the ground, and the surface water runoff. In terms of the second, people learn to live with floods. In Jakarta, people are prepared for their houses to flood for one or many days in the rainy season. They wait for water to drop, clean out all the mud and muddy water, and get back the unflooded life. “Get ready for the flood,” that is how anthropologist (van Voorst, 2013) describes how Jakartans deal with recurrent flood events.

I witnessed this from very close by during my fieldwork for this thesis, when I lived for five months in one of the flood-prone urban poor settlements in Jakarta, the kampung of Bukit Duri, on the bank of the Ciliwung River. Like other people in other parts of the world (White, 1942), people in Bukit Duri adjusted their houses to floods. For example, the house I lived in provided an elevated space somewhere on the ground floor to which I could evacuate myself in case of a small flood. My room on the ground floor, located in the front part of the house, was equipped with a rack close to the ceiling. I could put my suitcase there if the floor would be inundated. At first, I did not realize that the floor was slightly sloping. I just realized this during my first flood experience, when I noticed that when the water level decreased, it flowed out from the house by gravitation. Beds on the first floor are high enough, more than one meter from the ground, enabling you to

¹ Sources of these data are flood events recorded in news, collected/scrutinized/organized by Gunawan (2010).

² Source of these data is Indonesia Disaster Mitigation Agency (BNPB).

continue your sleep when there is a flood. Most of the houses in Bukit Duri have a second floor, to which you can evacuate yourself if the first floor is inundated.

1.1.2 Types of floods

Between February and March 2016, I experienced five river floods with heights ranging from half to one meter. The volume of water flowing kilometers from the hinterland to the sea surpassed the river's capacity, inundating the riverbank. The early warning system that is in place informs the riverbank communities in time, giving them around 6-8 hours to prepare before the flood comes. Somewhere in the upstream, in a place called *pintu air* (water gate) *Katulampa*, the gate-keepers monitor the water discharge and flow velocity of the Ciliwung River. A table converts the observed water discharges and flow velocities at the *pintu air* Katulampa into downstream flood risk. The riverbank community has an intimate understanding of this table. While living there, I used to receive *Whatsapp* messages from the river bank colleagues, warning me about the flood that would come the next morning and, therefore, telling me to be prepared.

River flooding, like the one I experienced above, is just one type of flooding in Jakarta. It is called *banjir kiriman* (literally meaning “sent flooding”, i.e. flooding due to the upstream heavy rain, water is sent downstream). Another type is coastal flooding, caused by the combined effect of sea level rise and land subsidence. In Jakarta, the rate of sea level rise is small when compared with that of land subsidence, with the latter exceeding the former with a factor of, in some places, more than fifty. In some places the land is sinking with a rate of approximately 20-28 cm/year, while the rate of sea level rise is 0.5 cm/year (Abidin et al., 2011; Marfai, Sekaranom and Ward, 2015). A third type of flood is caused by the inability of existing drainage canals and rivers to contain rainwater, the so-called *hujan lokal* (local rain).

1.1.3 Managing floods

Since the colonial era, the government has been in pain to manage floods in Jakarta. The colonial era saw the development of flood infrastructure (a canal system, dredging, kampung improvement; see Octavianti and Charles [2019]). After independence, the government has been engaged in a sequence of measures to prevent and manage floods. These include continuous work on a system of canals (see Nedeco [1973]; Gunawan [2010]), dredging, clearing and the so-called normalization of rivers (GOI – Government of Indonesia [2011]; Kementerian Pekerjaan Umum [2015]), but also involve coastal protection works such as the Jakarta Coastal Defence Strategy (JCDS; Ministry of Public Works [2011]), the Great Garuda or the National Capital Integrated Coastal Development (NCICD; NCICD Master Plan [2014]), the ‘Updated NCICD’ in 2016, and the Integrated Flood Safety Plan (IFSP, van Woerden et al. [2018]). In spite of all these projects and measures, until today Jakarta remains a notable site of urban flood risk (Marfai,

Sekaranom and Ward, 2015; Garschagen, Surtiari and Harb, 2018; Wannewitz and Garschagen, 2020).

1.1.4 Floods are political

Jakarta's flooding has received much attention from scholars (like myself) as well as from citizens and the government. The issue of flooding is discussed by many people, from the layperson to the high or top ranking politician. I have been involved in discussions about flooding many times and with many people, such as with fried-rice street vendors. One still can watch the debates preceding the DKI Jakarta governor election in 2017 archived on *Youtube* that show that issues of flooding, groundwater extraction, and land reclamation were also a matter of concern to the elites, and figure prominently in political debate.³

A decade ago, Fauzi Bowo – the 2007-2011 Special Capital Region (DKI) Jakarta Province governor – for instance used flooding as a central theme in his campaign. During his training as an engineer at the University of Kaiserslautern in Germany, he had done his thesis on Jakarta's urban and regional planning. His campaign's tagline was about floods: "*serahkan pada ahlinya*," literally means "leave it to the expert". He thus smartly mobilized his engineering degree to lend support to his promise that he would better manage floods in Jakarta, a strategy that was politically effective in his race to become the governor in 2007 (metro.tempco.co, 2010). Nobody wants to be flooded. When someone claiming to be an expert promises to liberate you from flooding, no reason to not give it a try. Indeed, Bowo won the election. Unfortunately, he was not able to deliver on his promises.

Another wave of political campaigns that centered on floods was even more dramatic in terms of political scale. It came from Indonesia's current president, Joko Widodo (Jokowi). Jokowi was a major in Solo, a small town in Central Java Province, when he was running for the DKI Jakarta gubernatorial election in 2011. He had graduated from the Forestry Department, Gadjah Mada University (UGM), Yogyakarta, another city in the central part of Java. At that time, as recorded in mass media, Jokowi claimed that managing Jakarta's floods is relatively easy. According to him, it was all about allocating enough budget to it. The DKI Jakarta government, in his view at that time, should use the government budget to manage flooding (rmol.co, 2011). Accompanied by Basuki Tjahaja Purnama as the vice-governor candidate, they won the 2012 DKI Jakarta gubernatorial election.

In 2014, Jokowi ran for president. Jakarta's flooding also figured in his presidential campaign. He said it would be easier to manage Jakarta's flooding from a presidential

³ Examples: 1) <https://www.youtube.com/watch?v=DmMNPStSeNw> (accessed: 17.06.2018); 2) <https://www.youtube.com/watch?v=ehGRJaRe5EU&t=125s> (accessed: 03.12.2020).

chair, explaining that the water in the Ciliwung River comes from outside of Jakarta, an area that administratively belongs to another province of West Java. His argument was that coordination among many provinces was needed to better manage the Jakarta floods. This would be easier if the higher level of government, in this case the president, is knowledgeable about flood management. This trans-province coordination is something that is beyond the reach of the DKI Jakarta government (megapolitan.kompas.com, 2014). He thus played with the ‘politics of geographical scale’ in politically exploiting Jakarta’s flood issue. With that, he won the presidential election, and his deputy, Basuki, came onto the stage as DKI Jakarta governor. Later on, as a president, in 2019 Jokowi announced the move of Indonesia’s capital from Jakarta to East Kalimantan. Flooding and land subsidence are an important part of the reason to move the capital (Bappenas, 2021: 4). The cartoon of *Tempo Magazine* (January 29th, 2022 edition) in Figure 1-1 below captures Jokowi’s statements about how to manage Jakarta floods.



Figure 1-1: Cartoon of *Tempo Magazine*. Top-left; +: If you vote me as a [Jakarta] governor, I will eliminate traffic jam and flooding; ++: Great! Top-right; +: Easier to manage traffic jam and flooding from the presidential chair; ++: Cool... Bottom; +: Jakarta is about to be submerged, we relocate [the capital]; ++: What?!⁴

⁴ This cartoon is republished here with a permission from Setri Yasra, Editor in Chief of *Tempo Magazine*, through WhatsApp conversation, 4/2/2022. The cartoon is available at: <https://twitter.com/temponewsroom/status/1488668319196450820> [accessed on 14 February 2022].

Basuki, widely known as Ahok, was trained at the Geological Department of Trisakti University, Jakarta. He also pulled the expert card. His claims to expertise about floods are archived: "*I graduated from the geological department,*" (megapolitan.kompas.com, 2015) he said, when he was trying to convince his audience about his ability to manage floods. This was a response to critiques about the government's river normalization programme that had evicted riverbank communities. Apparently, his engineering background was not really helpful, as the floods continued to occur.

In the 2017 DKI Jakarta gubernatorial election, Basuki was defeated by Anies Baswedan, who gained a PhD in political science from the Northern Illinois University, US. In terms of flood management, Anies' campaign distinguished itself from that of Basuki. Under Basuki, Jakarta witnessed evictions of riverbank communities for the sake of 'river normalization' which is the clearance of the riverbank and strengthening it with a fence of 20 m length of concrete sheet pile planted into the earth. Sometimes also a one meter height wall or dam is added to completely separate the river from its surroundings. The main aim of river normalization is to provide space for water so that it can flow into the sea without causing damage to buildings or people. Anies criticized this, calling this type of flood management "horizontal drainage". In contrast, he proposed to implement what he called "vertical drainage": measures aimed at facilitating the percolation of water into the ground (news.detik.com, 2017). He promised to adopt community-based flood management in which, for example, riverbank settlement can co-exist with flood prevention infrastructure. He won the election.

Despite the many political promises and interventions by top-ranking politicians, floods still come and continue to cause a lot of damage. In February 2018, due to heavy rain both in the upstream catchment (the *banjir kiriman*) as well as within the city (flood due to the *hujan lokal*), the largest part of the city was flooded. Floods came again in February 2020 and February 2021.

It seems that nobody is capable of controlling the water. Political campaigns with the promise of expertise and big infrastructure development (river normalization accompanied by riverbank community eviction repetitively conducted by politicians and government), so far, are not able to liberate Jakarta from frequent flooding. This puzzles me. Why is this so? How to explain this? Saying that politicians did not deliver on their promises only provides a small part of the explanation. In fact, many of them tried something (flood prevention infrastructures/measures: river bank clearance and normalization, eviction, dam/wall, etc.). Some, such as Basuki, lost their governor chair partly because of heated public debate on flood management. Politicians know it: to make the city flood-free is of utmost political significance in Jakarta. If somebody wants to run for the Jakarta gubernatorial election, that person has to be prepared to answer the question: what is your solution to flooding?

1.2 FLOODS AND URBANIZATION IN JAKARTA

Blaikie and Brookfield (1987: xvii) propose an interesting approach to understanding persistent environmental problems. In their attempt to understand why land degradation continues to massively happen in the Third World, they posed the question: "why 'land managers' ... are so often unwilling or unable to prevent such accelerated [land] degradation?" This question called my attention because I have a similar puzzle: why are water authorities – and politicians many of whom have flood-related expertise or are backed up by flood engineers – unable to liberate Jakarta from flooding? Blaikie and Brookfield (1987: 17) propose a political ecological approach to answer their question, as it allows interrogating "the contribution of different geographical scales and hierarchies of socioeconomic organizations (e.g. person, household, village, region, state, world) and the contradiction between social and environmental changes through time" to understand the persistence of land degradation. In other words, they try to understand land degradation beyond the land (ecology/non-human) itself, and look to how it is related to societal (human) processes and socio-economic complexities. I follow their analytical path.

My starting proposition is that Jakarta floods are woven into the very processes of urbanization through which the city is produced in the first place (Harvey, 1996; Marx and Engels, 1986: 25). Hence, floods are constituted by intersecting 'ecological' – extreme hydrological moments such as heavy rain and the sinking of land – and 'social' dynamics – ways in which the city was built. Jakarta's urban flooding, in other words, is an integral part of the urbanization process. I divide the urbanization process into three separate but interconnected elements, following proposals from urban scholars: increased population density, groundwater extraction that causes land subsidence and further increases the city's vulnerability to flooding, and the expansion of the built environment.

First, population density is recognized as a major factor contributing to floods because it decreases the capacity of upland catchments as well as the city to absorb or store water (Faedo, 2014; Rukmana, 2013; and Remondi, Burlando and Vollmer, 2015). Simply put, because the catchment is occupied by people, the space for water is reduced. In the last six decades, the concentration of urban population in the city of Jakarta has grown significantly. In 1900, the Jakarta population was 115,000. It became 2.9 million in 1961 (Rukmana, 2013). It skyrocketed into 6.5, 9.6, and 10.56 million in 1980, 2010, and 2020, respectively (BPS – Badan Pusat Statistik, 2020: 2). When looking at the urban agglomeration of Jakarta Megacity or Jabodetabek,⁵ population counts become even

⁵ The name of Jabodetabek is taken from the initial letters of the administrative unit of **J**akarta, **B**ogor, **D**epok, **T**angerang and **B**ekasi. The total area of Jabodetabek is more than 6 thousands km² (Rukmana, 2015).

higher, 28 million in 2010 (Rukmana, 2013). As a matter of illustration, in 2020 Jabodetabek population density is 4 times than that of Java and 33.5 times higher than that of Indonesia as a whole (Gea et al., 2020: 98-99).

Second, the spatial concentration of people in the city is connected to the increased extraction of underground water to fulfil the needs of the above-ground urbanites. People living in the city require a large amount of water for a myriad of purposes. An estimated 40% (Remondi, Burlando and Vollmer, 2015) – 70% (Colbran [2009]; see also Furlong and Kooy [2017]: 895) of the Jakarta population uses groundwater for daily purposes. A major portion of this groundwater, particularly for commercial and high-end residential use, is extracted from deep aquifer layers (Borst, 2014). The over-extraction of deep groundwater has been identified as one of the causes of land subsidence (Abidin et al., 2001; 2008; 2011; 2015). The sinking of land increases flood risk, as it makes it easier for sea water to inundate the sinking land, thereby blocking gravity-based river flows. Land subsidence leads, as has been succinctly explained by Abidin et al. (2015: 17), “to expanded coverage and deeper water depth of flooded (inundated) area.”

To trace the link between land subsidence and urbanisation, following the spatial and temporal distribution of groundwater extraction provides one logical entry point. In Jakarta, the database of deep groundwater wells is incomplete and unreliable, something that I will say more about in Chapter 5 where I discuss land subsidence. In this introduction section it is enough to show the changes in the total number of groundwater wells over time. The most rapid growth of deep groundwater wells has occurred in the last six decades. In 1879, there were only 42 deep groundwater wells in Jakarta. This number grew to 352 in 1968. This means that in 89 years, the number of deep groundwater wells only grew with 310 or 8.3 times. In 1998, the total number of deep groundwater wells was 3,626, which means that in 30 years, the number grew immensely, 10.3 times

(Figure 1-2, data are extracted/reproduced from Kagabu et al. [2013]).

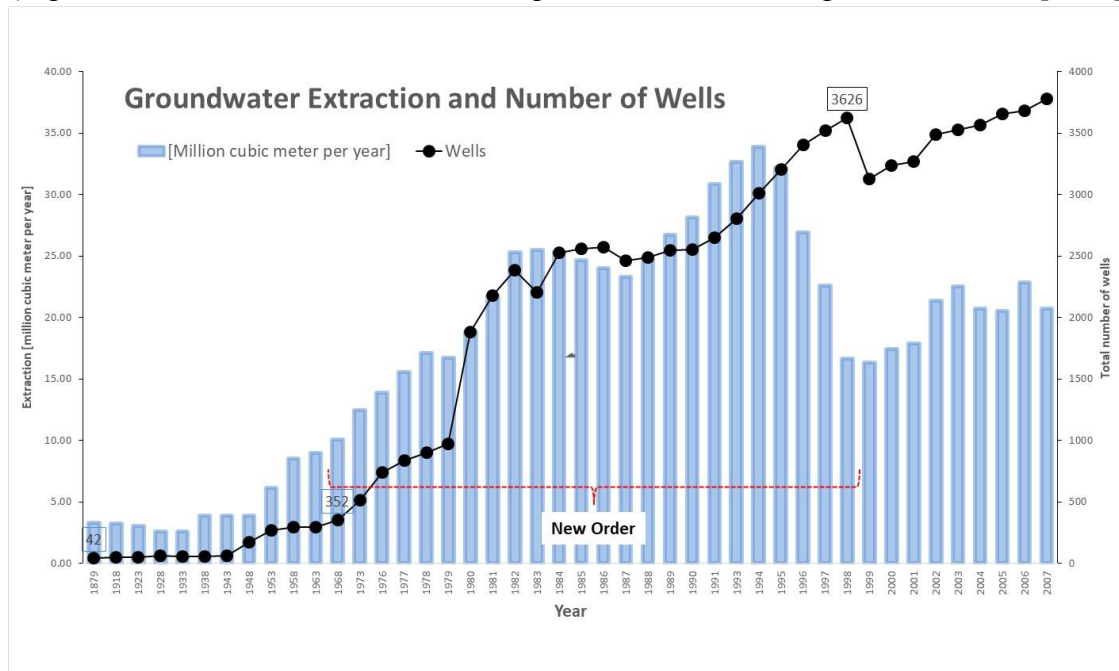


Figure 1-2: Groundwater extraction and number of deep wells; reproduced from Kagabu et al. (2013).

The third factor contributing to the production of flood risk is land conversion, or the increase of the built environment. The built environment increases flood risk through two seemingly contradicting processes. The first process, the reduction of the absorption capacity is partly caused by a reduction of space for water to flow, and partly by the increase in paved area – decreasing the volume of water that can be absorbed by the soil. Then, the second process, is soil compaction – caused by the weight of buildings – that lowers the elevation and logically increases the space for water to stay. They are contradicting processes in the sense that the former reduces space for water, and the latter increases it. Yet, the end result is the increase of the city’s vulnerability to flooding. Under the influence of European-style plans, the small city of Batavia expanded into an urban agglomeration. In 1770, the built-environment was 0.42% of the total area of what is now the DKI Jakarta Province. In 1965, the built-environment accounted for 18.12% of the total (Figure 1-3; modified/reproduced from: Pemerintah Daerah Khusus Ibukota Jakarta [1966], the DKI Jakarta Spatial Plan 1965-1985).⁶ This means that in almost 200 years, the built environment grew by only 17.7%. In 2014, the total built-environment was

⁶ There is a possible inaccuracy when I reproduced the map. Accuracy is not so much an issue here, but the pattern of landscape transformation over time. I consider this level of accuracy is sufficient for the purpose of my study.

83.7% (Garschagen, Surtiari and Harb, 2018: 7). This means that in only around five decades, the built environment grew by almost 65.5%.

The growth of modern-planned city

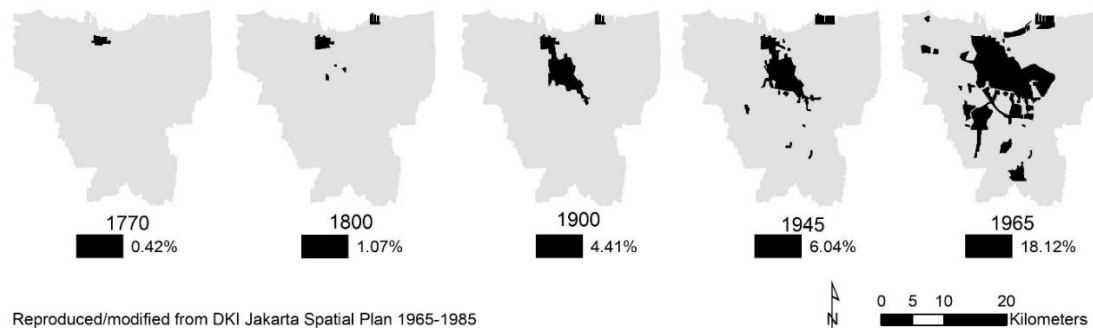


Figure 1-3: 1770-1965 expansion of European-style or modern-planned built environment in DKI Jakarta Province. Reproduced from the DKI Jakarta 1965-85 Spatial Plan.

Taking together, the increase in population density, the increase in groundwater extraction and the expansion of the built environment importantly account for the extreme vulnerability of Jakarta to floods. What is going on in the last five or six decades that allowed these processes to continue, when those responsible for urban planning were aware of the risks of flooding? Or – reformulating Blaikie and Brookfield (1987)’s question, why did water managers and city governments turn a blind eye? For people who follow the history of contemporary Indonesia, this is not a difficult question to answer. From 1965 to 1998, Indonesia was under the authoritarian regime of Suharto's New Order, which embraced the path of capitalist development.

1.3 NEW ORDER: POLITICAL ECONOMIC CONTEXT OF JAKARTA’S URBANIZATION AND ITS UNEVENNESS

After the ‘political independence’ in 1945 and the political recognition from the Dutch government in 1949, the era of 1950-65 was a moment of struggle to gain ‘economic independence’. Indonesia under its first president Soekarno (1945-65/7) embraced the idea of an anti-imperialist, -colonialist, and -capitalist revolutionary movement. Soekarno’s anti-imperialist campaign was captured in the slogan of “*Berdikari*,” an abbreviation of “*Berdiri di atas kaki sendiri*,” which means “standing on your own feet” (Soekarno, 1975; Vu, 2009).

The newly independent nation-state, strongly influenced by the national liberation movement and inspired by communist views, chose a path of development that involved nationalizing foreign companies (Kanumoyoso, 2001; Robison, 1986[2009]: 72). Partai

Komunis Indonesia's (Indonesia Communist Party, PKI) capability to mobilize mass movements was instrumental in creating political legitimacy for this. In rural areas, as part of the so-called 'economic independence' and legalized by Basic Agrarian Law (BAL) 5/1960, Soekarno embarked on a campaign of land reform consisting of land redistribution (Bachriadi dan Wiradi, 2011). PKI was the main proponent of BAL because the Party considered reaching people in the countryside as important for building political support for the Party. Lekra, a PKI-affiliated artist organization who used their art to support the revolution, was also actively involved in campaigning for land reform (Aidit, 1964; Mortimer, 1972; Kusni, 2005). To the end of his presidency, and heavily influenced by PKI, Soekarno became a more left-leaning president (Redfern, 2010; Larasati, 2013). The *Berdikari* principle also guided Indonesia's international policy. It was materialized by Indonesia's withdrawal from the United Nations (UN), the International Monetary Fund (IMF), and the World Bank (WB) in 1965 (Redfern, 2010: 572). Soekarno could indeed be called the "Hugo Chavez of his day" (Klein, 2007: 67).

This economic independence movement was a major obstacle for the expansion of, particularly, foreign capital. In 1965, the *September 30 Movement* (G30S) erupted. This was, according to McNaughton (2015) and Lane (2014: 81-101), a counter-revolution in that it ended Soekarno's revolution. On the night of September 30 in the capital, a group of people who made up the *September 30 Movement* kidnapped and killed six army generals, including the army chief. Who, if anyone, was the master mind of the movement, is still a mystery in Indonesia's modern history (Rossa, 2006; Redfern, 2010; Simpson, 2008; Melvin, 2018; Robinson, 2018). Klein (2007: 67) maintains that the US Central Intelligence Agency (CIA) was involved. The *September 30 Movement* created an opportunity to one of the army generals who was not kidnapped to seize power, Suharto. The morning after the events, he was quick to take over the command of the higher army to control the situation. The Suharto-led army accused PKI to be the master mind of the movement. This was followed by the massacre of PKI's and many affiliated organizations' cadres. Estimates of the victims range between 500,000 and 2 million people (Larasati, 2013). Farid (2005: 3) terms this massacre as the "original sin of Indonesia," marking the violent start of primitive accumulation in Indonesia's modern history. On March 8, 1967, the People's Consultative Assembly inaugurated Suharto as the new president.

Suharto named his government New Order, which, according to his logic, is a differentiation to Sukarno's 'Old Order'. New Order (in Bahasa Indonesia: '*Orde Baru*'), according to one of Suharto's (1976: 3, 4, and 11) speeches, is an "order of development" (*orde pembangunan*), a "correction to the leadership, policy, and politics of the Old Order," with "economic development" at its core. Indeed, Suharto called himself "the father of development" (Heryanto, 1988). He cultivated experts who were incubated under Sukarno's era as the main engine for New Order development (Fakih, 2020). After the inauguration, it became clear how in many ways Suharto was completely the opposite of

Soekarno. Soon after he came to power, Indonesia rejoined the UN, IMF, and the WB (Redfern, 2010: 527). Many pro-people policies from Soekarno's era were abolished and replaced by pro-capital policies. Land was no longer for the people, but for big corporations (Rachman, 1999). The early decades of Suharto saw massive inflows of USA-based capital into many sectors, such as manufacturing, banking, finance, mining, oil, agriculture, food processing, and forest products in 1967 (Winters, 1991).

To achieve the goals of development, the New Order state strongly engaged with capitalism, and without any hesitation repressed its own population. That is why Feith (1979) called New Order a "repressive-developmental regime". In a similar vein, Vu (2010: 2) labels it a "developmental state," which means a "state with structures and strong commitments to growth-conducive policies". Or a state with economic growth as it's, to paraphrase Gidwany (2008: 14), main rational conduct. The development promoted by the New Order regime was built upon the centralization of political power, the oppression of the freedom of expression, and the centralization of economic sources in the hands of a few elites of the Suharto family and its cronies. Therefore, the New Order is also characterized as crony capitalism (Robison, 2009[1986]; Kunio, 1990; Vatikiotis, 2003; Robison and Hadiz, 2004; Aspinall, 2005; Hadiz and Robison, 2013). Because of the increase of state power, Hiariej (2003 and 2006) labelled Indonesia's capitalism a form of "state capitalism," which has two main roles: implementing capitalist development and protecting the capitalist class. The moment of 1965-7 upheaval, then, was a moment that marks the further integration of Indonesia's economy into global capitalist development.

Capitalist development always urbanizes unevenly. The general law is, as Marx (1867[1982]: 265) warned, "What appears on one side as a minus, appears on the other side as a plus." In Smith (1984[2008]: 6)'s words, "development at one pole and underdevelopment at the other". Or, as Amin (1976: 31) states, the "proletarianization and the accumulation of money-capital" are the essential conditions needed for the development of capitalism. The unevenness produced by Suharto pro-market policies becomes clearly manifest in today's Indonesia, more than two decades after his power was halted by the Reformasi Movement in 1998. One example of how unevenness proceeds can be seen by looking at the allocation of large-scale land concessions. According to Rachman (2013), one of the roots of the endless displacements in Indonesian rural areas has been the abandonment of the Basic Agrarian Law 5/1960 – in which the redistributive land reform program was contained – since the New Order came to power. This went accompanied with the New Order allocating large-scale stretches of land for private corporations. The massive displacement and lack of access to land in rural areas, in turn, contributed to pushing out the rural population; with some of them moving to cities like Jakarta.

Existing urban research indeed shows that landlessness in rural areas is one of the main reasons for rural-to-urban migration among the Jakarta urban poor (Azuma, 2000). This matches with the analysis of rural/agrarian studies that identify the lack of access to land

as one of the pushing factors of rural-to-urban migration (White, 1977). People are flowing to Jakarta or Jabodetabek for permanent, seasonal, or temporary stays (Breman and Wiradi [2004]; see also Milone [1967]: 250; McNicoll, 1968; Temple, 1975; Papanek [1975]; Hugo [1982]; Bachriadi and Lucas [2001]; Aditjondro [2003]: 309-310; Sheppard [2006]; Kooy and Bakker [2008]: 383; Texier [2008]; Kusno [2011], [2013], and [2020]: 2; Van Voorst [2015]; Texier-Teixeira and Edelblutte [2017]; Leitner and Sheppard [2018]: 7; Yarina [2018]; Putri [2019]: 5).

Suharto died in 2008. However, his legacy persists. Current Indonesian political and business elites have been incubated during the New Order regime (Hadiz and Robison, 2013). Indeed, the influence of Suharto's crony giant property developers is quite literally cemented into Jakarta's landscape (Kenichiro, 2001 and 2015), including the transformation of the sinking part, such as the luxurious area of Pantai Mutiara in the north-west part of the city (see, Abidin et al. [2011]; Rukmana [2015]).

In my analysis, I examine how the uneven capitalist urbanization of the New Order regime (1965-1998) and its continuation afterwards (1998-now), or (post-) New Order, is cemented into the city of Jakarta and beyond. I am particularly interested on how it is related to the city's vulnerability to flooding. To carve out the scholarly space for my work, below I discuss how Jakarta's floods have been studied by others.

1.4 HOW HAVE THE JAKARTA'S FLOODS BEEN STUDIED?

Flooding makes Jakarta into "the most-researched high-risk coastal cities in the world" (Wannewitz and Garschagen, 2020: 3297). Wannewitz and Garschagen (2020) provide a good review of more than two hundred scientific publications in English on floods in Jakarta over the past 20 years. Studies have examined the vulnerability of the city to floods (Marschiavelli, 2008; Ward et al., 2011 and 2012), discuss floods through engineering models (Tambunan, 2007; Hurford, Maksimovič and Leitão, 2010; Trilaksono et al., 2011; Bricker et al., 2014), and document and assess options for flood management (Julianery, 2007; Gunawan, 2010; Akmalah and Grigg, 2011; Simanjuntak et al., 2012; Octavianti and Charles, 2019).

How flood production is thick with politics can perhaps best be shown through the linkages between particular patterns of settlement and economic development on the one hand and floods on the other. Texier (2008), affirmed by Van Voorst (2014), mentioned that over the past 50 years, numerous villas have been constructed by the upper class of society in the upstream part of the Ciliwung River catchment. Meanwhile, the main slopes of the upstream areas are increasingly used for plantations, causing a massive reduction in forest area. The combined effect of converting the upstream green area into impervious surfaces and reducing forest canopy is an acceleration of run-off, which in turn triggers floods in the lowland city of Jakarta. Within the city, urban development is recognised as

an important causal factor of flooding (Caljow, Nas and Pratiwo, 2005; Texier, 2008; Padawangi, 2011; Faedo, 2014; Rukmana, 2015; Hellman, 2015; Padawangi and Douglass, 2015; Remondi, Burlando and Vollmer, 2015). Padawangi (2011) and Rukmana (2015) specifically point to changes in land use, such as the development of mega buildings for commercial purposes, as contributing to the complexity of the flooding problem. Rukmana (2013) likewise sees flooding as a consequence of suburbanization and the extension of Jakarta into the Jabodetabek urban agglomeration.

Some studies have examined the uneven distribution of flood risk among urban populations and how they react to it. For example, Van Voorst (2014) links the reluctance of people living on river banks to attend tribunals or lawsuits against the government, demanding attention to and compensation for poorly implemented flood prevention measures, to their experiences of repression exercised for years by the New Order regime. Faedo (2014), through the lens of political ecology, noted that flood in Jakarta should not be taken for granted as a ‘naturally’ occurring phenomenon. He shows how the design and location of hydrological structures like the Manggarai floodgate in Jakarta is shaped by power relations that importantly determine who will be flooded and who will be protected. Recent studies refer to what flooded communities do to deal with floods as “insurgent planning” to differentiate it from as well as challenge government-led “rational planning” (Putri, 2020). Instead of blaming urban poor settlements as causing flooding, these studies focus on ways of empowering communities (Leitner and Sheppard, 2018), and set out to support them with making legal appeals in court (Gavin and Soemarwi, 2020) to challenge evictions. There is experimentation with forms of “social innovation” through which the urban poor can contest their displacement by dominant urban development (Widyaningsih and Van den Broeck, 2021).

1.5 MAIN RESEARCH QUESTIONS

While there are studies that articulate the hydrological, historical, social, economic and even political causes of floods, there is no specific analysis yet of how flood intertwines with uneven urbanization processes within the political economic context of capitalist development in Jakarta (post-) New Order regime. This lack of critical attention to how the occurrence of floods is intrinsic to the process of uneven urbanization in (post-) New Order regime leads to what I see as a distinct depoliticisation of floods: it conceals how floods happen partly because of distinct political choices. This thesis benefits from the above reviewed rich literature on Jakarta flooding to locate itself, to excavate the relations between (post-) New Order uneven urbanization, the production of flood events, and the development of flood infrastructure. The main research question of this study therefore is: *How are flood events and interventions related to uneven urbanization of (post-) New Order Jakarta?*

To operationalize this question, I have divided it into two parts. The first part is concerned with answering the following question: *How are flood events produced by and productive of (post-) New Order uneven urbanization in Jakarta and beyond?*

The second part has to do with how flood prevention measures are designed, planned, and implemented, specifically focusing on how they are the product of and in turn produce unevenness. At the time I started this research, there were three big flood prevention measures on the ground: the Jakarta Urgent Flood Mitigation Project (JUFMP), the National Capital Integrated Coastal Development (NCICD), and the Ciliwung River Normalization (CRN). JUFMP aims to improve the flow capacities of 11 rivers in Jakarta and to increase the storage capacity of four reservoirs. The *Consolidated Summary of Environmental Impact Assessment of JUFMP* (GOI, 2011: 52) explicitly mentions that, in order to perform its aims, 1,109 settlement structures, which are occupied by 5,228 people, are potentially “affected.” According to the *Assessment* (GOI, 2011: 52), these people – called “Project Affected People (PAP)” – would have to be evicted from their living spaces. This is rationalized by the flood management imperative to ‘normalize’ rivers and reservoirs, in order to increase their flow and retention capacity. 96% of those to be evicted live on riverbanks, and the rest have their houses close to reservoirs. In Jakarta, people who live on riverbanks are often referred to as the urban poor (Texier, 2008; van Voorst, 2014). The NCICD aims to protect Jakarta from the type of flood that comes from the sea. To achieve its goal, the project has to evict some 50,000 fisher folks living and working around Jakarta Bay.⁷ CRN is a program to increase the flow capacity of the Ciliwung River so that the water stays in the river and does not inundate the city’s settlements. Doing this would require clearing a total of 85.31 hectares of land and evicting 8 kampungs (Kementerian Pekerjaan Umum, 2015). Indeed, the eviction of people from their places of living and work is what these three projects have in common. Understandably then, that to riverbank communities the main threat is not flooding, but eviction (van Voorst and Hellman, 2015: 804). Based on a publication of the Jakarta Legal Aid Institute (LBH-J, 2016), in 2015, approximately 40% of the 113 evictions in Jakarta were because of flood management in the city. This, then, is what provoked my second sub-question: *How are infrastructural interventions for managing floods reproducing unevenness under the (post-) New Order regime?*

1.6 EXISTENTIAL AND PERSONAL UNDERGROUND QUESTION

Up to this point, I hope everything I wrote is reasonable; that it makes sense, is clear and logical. Yet, I still have something to say, a sort of question if you want to put it that way,

⁷ Presentation by General Secretary of KIARA in public discussion for a documentary screening of *Rayuan Pulau Palsu (The Seduction of Fake Islands)* at The University of Paramadina, Jakarta: 8-6-2016.

which is occupying my mind. The question nags me, as a pebble in my shoe: why I am doing this, spending all this time (6 years in total: full time from 2015 to 2018 and half time from 2019 to 2022) and hard labor on producing scientific articles and ultimately a PhD? This is an existential and personal question. It comes from the depth of my human self, which is why I think it is fair enough to share it here.

A first reason is an existential one. In 2014, I had no permanent job. Now (2022) I do not have one either. For me at the time that I started, pursuing a PhD was a way to survive. My personal experience and my studies and readings helped me recognize a political discussion: how to change the condition. But, what condition is to be changed?

The best way to tell this is perhaps by telling who I am and what I have done so far. I was born in 1980 in a village in the so-called “outer” island of Sumatra, Indonesia, in the middle of the Bukit Barisan Mountains. My childhood memory is made of mountain rivers and fishes, terracing rice fields; non-plantation coffee, rubber (*Hevea brasiliensis*), cinnamon, and candlenut trees. If once in your life, you sip Mandheling coffee in Jakarta or Amsterdam or elsewhere, most likely, from the name, it came from my place, the Mandailing land (*tano Mandailing*). In 2000, I moved to the city of Yogyakarta in the central part of Java Island to pursue my bachelor’s education in the Geological Department at UGM. The Shell Oil Company helped me do this; it provided years of scholarship, thus helping me to graduate from UGM. At the end of my thesis, I identified myself as belonging to a specific fraction of the much larger group of rural-to-urban migrants: those who move to the city to pursue education.

The city of Yogyakarta is well known in Indonesia for its role in nurturing critical activists. From the early 2000s, one of many urban poor organizations in Jakarta was the Urban Poor Consortium (UPC) with its nationwide network, Urban Poor Linkage/UPLINK. Originating as NGOs, UPC/UPLINK later transformed into networks of the Indonesian urban poor. While doing my bachelor in UGM (2000-5), I worked part-time at Lafadl Initiatives, a small NGO, that was ‘sub-contracted’ by, or to be more polite worked ‘in partnership’ with, UPC/UPLINK to publish UPC/UPLINK’s newsletter. I was part of that sub-contract/partnership scheme. My job at that time was to coordinate the publication of KOMPOR, UPC/UPLINK’s newsletter. In 2005, I graduated from UGM and shortly after joined a mining company in East Kalimantan, working as a well-site geologist. My tasks were, among others, making geological maps, supervising drilling activities, describing rock and geophysical logging, and contributing to the modelling of the geology of that area. I spent two years in East Kalimantan and subsequently signed out from the mining company. My reason was simple: I did not feel suited for that job.

Leaving the mining company behind, from 2009 to 2010 I rejoined Lafadl Initiatives and was involved as a community organizer for survivors of the Lapindo Mudflow in Porong, Sidoarjo, East Java. This mudflow displaced more than 50,000 families due to the

inundation of densely populated peri-urban and rural areas. The mud had erupted from an oil and gas drilling exploration and was triggered by an underground blowout. Around 2009, through many friends in my village in Sumatra, I learned that an Australian-based gold mining company was about to enter the Bukit Barisan Mountains. My village was one of the many villages that was inside the concession area of the gold mining company. I did not like the activities of that gold mining company because to me it meant the erasure of entire villages. I took a stance and joined the people's movement in rejecting it.

In 2010-12, I got a scholarship from the Belgian government to pursue a master program in the Interuniversity Programme in Water Resources Engineering (IUPWARE), organized by two universities, KU Leuven and VU Brussels. In this timespan, from a distance in Leuven, I continued to be involved with the rural-based movement in my own village set up to reject the Australian-based gold mining company. Due to my bachelor in geological engineering, I was given a role by fellow villagers of translating geological reports for people without a geological background. In addition, on the several occasions that I went home to Sumatra, I joined community meetings and talked with people to learn about what is going on there. Thanks to all the hard organizing work by villagers, we managed to build a coalition of 13 villages that were located in or close to the gold mining concession area. We succeeded in rejecting the gold mining company. Until now (2022), the gold mining company has disappeared from our area. Perhaps, in the future, they will come again, or just transform their mining-capital into other kinds of investments.

This 'success' nestled itself in my brain. It made it hard for me to accept working for a company or corporation like mining. That is why, after I graduated from IUPWARE in 2012, I again became involved in a peasant movement. This time in Kebumen, Central Java, where I worked as an organizer for a peasants' movement, which, until now, resists the army's claim on agricultural land: in 2008, the Indonesian Army (Tentara Nasional Indonesia Angkatan Darat/TNI AD) supported a permit of an iron sand exploration by an Australian-based mining company on that land in the hope that some of the benefits would flow to the army.

Through this decade of involvement with both social movements, I discovered that there is an urban-rural divide between social movements contesting uneven development in Indonesia. I observed how similar movements remained at a distance from each other, roughly holding on to the boundaries between the urban and the rural. Hence, the (post-) New Order agrarian, environmental, and indigenous people movements root their struggles mainly in access to land (Peluso, Afif and Rachman, 2008; Li, 2001). On the other hand, the urban poor movement anchors their campaigns in housing issues, while the labour movement roots its campaigns in issues of minimum wage and safety conditions for workers in the industrial sector (Aditjondro, 2003a: 169-175; Sidik et al., 2015). This is perhaps what Padawangi (2008: 11) identified as "the lack of shared identity among many social movements" in her study about what space means for social

movements in post-New Order Jakarta. Building cooperation between urban- and rural-based movements indeed is one of the “most crucial problems” (Dolgoft, 1974: 8) in revolutionary struggles and transformations.

In acknowledging this, I would like to make clear that I am not advocating one centralized or hierarchical social movement. I am arguing that the underlying mechanism of Indonesian uneven development in both rural and urban areas is the same: the massive expansion of capitalist development. Recognizing this helps to see that the problem caused by Australian gold mining concessions in my own village has the same root as the evictions of Jakarta's urban poor for the sake of flood management. My hope is that by making this similarity more visible, the two movements can support and learn from each other.

What is the social movement that I am talking about, by the way? I admire the contribution of the NGO-type of social movements that were part of the *Reformasi Movement* that overthrew Suharto from power (Aspinall, 2005). I respect Indonesia's NGOs, particularly for the knowledge they produced through so many documents and publications in the past, both in urban- and agrarian-studies.⁸ However, in today's Indonesia, this NGO-type of social movement, working on splintered issues, is far from enough. Hadiz and Robison (2013), argue that those who currently dominate Indonesian politics and businesses were incubated under the New Order regime. They conclude that "for the cycle to be broken and a new social order put in place nothing less is required than a deeper social and political revolution" (Hadiz and Robison, 2013: 57). In line with this, the social movement that I am dreaming of is one that facilitates “a deeper social and political revolution,” one that eliminates unevenness.

Having explained this personal experience, I can now say that the underlying motivation for this thesis is one that has had a long time to become sedimented in my own inside underground. I am now capable of surfacing it, and of formulating it onto the screen of my laptop: *how to open more possibilities to connect, and to provide possible pathways to deal with, urban/rural-divided social movements (set in place for a deeper social and political revolution)?*

Hence, I discuss the main questions against this underground sediment, approaching the analysis of in- and beyond-city contexts and society-nature relations to engage with

⁸ Examples of good regular publications by Indonesian NGOs are: 1) *Jurnal Tanah Air* published by WALHI (The Indonesian Forum for the Environment); 2) *Jurnal Wacana* published by INSIST (Indonesian Society for Social Transformation); 3) *Jurnal Prisma* published by Institute for Social and Economic Research, Education and Information. I consider they are good because they record both cases and how people/authors approach cases – they record the developmental trajectory of critical social science in Indonesia.

uneven (post-) New Order urbanization processes. To do this, I use a political ecology of urbanization (PEU) framework.

1.7 ORGANIZATION OF THIS THESIS

This thesis is divided into seven chapters. Chapter 1, where we are now, introduces the research questions.

Chapter 2 unpacks my explanatory framework and method. It fleshes out PEU from the ongoing and lively explosion in urbanization theory. The political economic approach of political ecology (PE) was nurtured in near-South rural areas, and aimed at confronting the uneven process of ecological/environmental production within which the human/society and the non-human/nature are entangled.⁹ It was urbanized through the urban political ecology (UPE). The critique of methodological cityism re-urbanizes UPE into PEU, suggesting more analytical attention to the sociospatial moment of urbanization. To relate with the political economic approach of PE, this Chapter locates the discussion within political economic conversation by setting constitutive moments of unevenness, sociospatial, and socionature as theoretical strands for PEU. This thesis employs an ‘ecologized dialectical method’. I call it a dialectical method because, first, this thesis deals with the constitutive relations between urban and the rural, between sociospatial and socionatural, between human and nonhuman, and between differentiation and equalization. Second, I develop a framework (political ecology of urbanization) and categories of processes (in Chapter 3 – 6). I use both the framework and categories as a way to identify possibilities for political change. I call it ‘ecologized’ to accommodate the spontaneity of life forms in the future.

I use the moments of unevenness, sociospatial, and socionatural to help me answer my research questions. Chapter 3-5 mainly deal with the first sub-question (*How are flood events produced by and productive of (post-) New Order uneven urbanization in Jakarta and beyond?*). Chapter 6 shows how the development of flood infrastructures reproduce unevenness in the city and beyond – mainly dealing with the second sub-question (*How are infrastructural interventions for managing floods reproducing unevenness under the (post-) New Order regime?*).

Chapter 3 identifies the uneven urbanization of the non-city and the city to conceptualize the explosion and eviction of Jakarta’s urban poor (the ‘*kaum miskin kota*’, *KMK*) as an ‘extended agrarian question’ in ‘concessionary capitalism’. It explains large-scale land

⁹ “Near-South” is a device to designate Global South in which imagination about development is bordered by the condition of the Global North, but with an understanding that there is no need to catch up with the latter (Simone, 2014).

concessions in the countryside's sociospatial reconfiguration, within which non-human (land) and human are transformed, as a vehicle to dispossess the rural population from access to land and push some of them to move to the city and end up as *KMK* living in Jakarta's precarious spaces and working in the informal sector. Even though my analysis of Jakarta's flooding and flood infrastructure temporally anchored in (post-) New Order, for a more convincing explanation, I locate (post-) New Order's 'concessionary capitalism' within the trajectory of capitalist development inherited from previous eras, such as the colonial time. I acknowledge that lack of access to land in the countryside is not the only reason that makes people move to the city and also realize that to become part of the formal sector is not the only goal of rural-to-urban migrants. My main aim in this Chapter is to connect the non-city with the city through providing an explanation of a specific type of capitalist development. The explosion of *KMK*, or so I argue, has to be understood in its relation with primitive accumulation happening in the countryside.

Subsequently, Chapter 4 identifies how flood risk conditions were produced through urbanization. It further connects the city and the non-city by connecting urban eviction with rural land dispossessions. The Chapter follows the flows of people by linking those I interviewed in the evicted, or at risk of being evicted, flood-prone urban poor communities in Jakarta to interviews in selected rural village in Central Java Province. I focus on the place of origin of one interlocutor, from which she was expelled due to land dispossessions. The analysis traces the history of land dispossessions back to the colonial era and the New Order regime, manifested in two forms. The first is the state-led forest occupation in the colonial era that was inherited by the New Order state – political forest. The second is land dispossession through dam development, as a part of agricultural modernization to support the Green Revolution under the New Order – political water. Sociospatial reconfigurations through political forest and political water are intimately linked with socionatural transformations: a decrease in groundwater and an increase in above-ground flows in the rainy season. The dual character of sociospatial reconfiguration and socionatural transformation in the countryside pushed the peasantry to move to cities like Jakarta. This, in turn, helped the Jakarta urban space to explode into the agglomeration of many cities. When these people occupy precarious urban spaces such as river banks, it helps transform Jakarta's socionatural conditions to become more vulnerable to urban flooding.

Chapter 5 operationalizes socionature as a methodological device to trace how Jakarta's urbanization under the (post-) New Order regime contributes to the current land subsidence that perpetuates urban flooding through an examination of the city's development and deep groundwater extraction, within which human and non-human are entangled in uneven ways. It uses sociospatial theory of urbanization to tell the narrative of how land subsidence is produced by and is productive of New Order development and continuous to affect the post-New Order. Sociospatially, land subsidence unfolds through

capitalist urbanization, articulated in the horizontal growth of the city and the vertical expansion of deep groundwater wells.

Chapter 6 connects flows of water to flows of labour and capital through Jakarta's flood infrastructure by tracing how Jakarta's urbanization is productive of flood risk and how flood infrastructure developments, themselves part of processes of urbanization, are productive of unevenness. It illustrates the production of flood events by examining how the land conversion of the non-city in the upland catchment of Jakarta by political and economic elites, some of which are part of the New Order crony capitalism, contributes to the production of flood events in the lowland part of the city. In turn, flood infrastructure developments evict the Jakarta urban poor and deteriorate the environment both within and outside the city. The latter occurs in places that are the sources of sand and cement for the development of flood infrastructure. The mobilization of materials (sand and cement) connects the city and the non-city and shows how the space and people in the countryside are sacrificed for urban requirements. The city is treated as the site of agglomeration, while the non-city is treated as a site of extraction. The Chapter argues that the political ecology of urbanization, which is rooted in the analysis of the contradiction between capitalist and labour, has emancipatory promise. It can help advance social movements by connecting the city to the non-city, and flows of water to flows of labour and capital.

The practice of political ecology and my ecologized dialectical method both seek to change the politics or the condition. Chapter 7 concludes by summarizing the uneven relations entangled with the more-than-city socionatural transformation and sociospatial reconfiguration exposed in the previous chapters, highlights the political consequences of understanding Jakarta's flood events and management through the lens of political ecology of urbanization, and sketches out possibilities for such change.

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 2 under embargo until January 2024

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

Chapter 3 under embargo until December 2022

4

URBANIZATION IN (POST-) NEW ORDER INDONESIA: CONNECTING UNEVENNESS IN THE CITY WITH THAT IN THE COUNTRYSIDE¹⁹

Abstract: This article explores the relationship between the uneven outcomes of development in Indonesian cities with exclusionary outcomes of capitalist development in rural areas. Combining concepts of planetary urbanization with critical agrarian studies, we show how sociospatial and socionatural differentiations in (post-) New Order Java result in the emergence of the *Kaum Miskin Kota*, a ‘stagnant relative surplus population’ residing in precarious flood-prone urban spaces. These forms of differentiation are dialectically related to rural enclosures caused by the creation of political forest and political water. Tracing such relations forms a good basis to connect rural- and urban-based social movements.

Keywords: Urbanization; relative surplus population; political forest; flood; Jakarta; New Order Indonesia. Insert summary of the chapter.

¹⁹ This chapter has been published as: Batubara, B., Kooy, M., van Leynseele, Y., Zwarteveen, M. and Ujianto, A. (2022). Urbanization in (Post-) New Order Indonesia: Connecting Unevenness in the City with That in the Countryside. *Journal of Peasant Studies*. <https://doi.org/10.1080/03066150.2021.2000399>.

4.1 CONNECTING UNEVENNESS IN THE CITY WITH THAT IN THE COUNTRY

Jakarta is marked by thousands of dense, iconic urban neighbourhoods situated alongside and sometimes on top of its rivers and canal banks. For more than a century, these neighbourhoods have provided the cheap and accessible places of possibility for those who migrate to the city from the countryside (Abeyasekera, 1989; Bachriadi and Lucas, 2001; Kusno, 2013; van Voorst, 2015; Prathiwi, 2019). Many migrants have settled here due to the loss of land or other livelihood resources in their rural homes. Cities may offer them an alternative space for experimentation and improvisation (Simone, 2014). Yet, urban livelihoods are typically precarious, not least because the land on which new migrants make their homes is frequently exposed to floods; constantly under threat of eviction; or targeted for improvement by a city government labelling them as ‘dirty settlements’ (*pemukiman kumuh*).

The precariousness of living alongside canals and rivers in Jakarta has increased over the past two decades (Goh, 2019a). Flood events have become ever more frequent (Padawangi and Douglass, 2015), triggering state-led flood management interventions geared at the removal of low-income settlements. These settlements are blamed by authorities of narrowing the waterways along or on top of which they are built, and of reducing the water retention and drainage capacity of the city as a whole. Critical analyses show how this technocratic framing depoliticizes as it draws attention away from the effects of upstream land use conversions and real-estate development in green urban areas by political and economic elites (Texier, 2008; Rukmana, 2015). Yet, grassroots activists who have generated and mobilized critical analyses in their struggles against evictions have so far had limited success in changing policies or public opinion.

Indeed, forced removals as justified by the exigencies of flood management seem to become increasingly accepted. This is why it becomes pertinent for activists and activist-scholars to look for and experiment with new political strategies to challenge prevailing diagnoses of and remedies to flood problems. In-line with alternative imaginaries of urban resilience (Goh, 2019b), one promising proposition here is to better link urban marginalization to what happens in the countryside. By tracing how the rural drivers of displacement caused urbanization, it becomes possible to show how conflicts over urban land – historically associated with political demands for housing rights and rights to the city – are intimately and dialectically connected with rural land-based and environmental struggles. Activists’ hope is that making such linkages more visible will help mobilize and energize broader political support in a way more attentive to the dialectical nature of capitalist exploitation and dispossession.

The recent struggle against the state-induced closure of the Jakarta Bay in 2016 (Batubara, Kooy, and Zwarteveen, 2018) provides a concrete expression of this strategy. In this nationwide campaign against the redevelopment of Jakarta’s coastline under the auspices of flood protection, urban poor grassroots organizations formed a coalition with agrarian

movements to contest the plan's eviction of urban poor settlements, as well as its exclusion of fisherfolk and other rural poor from access to the sea or land based resources. The first and second authors of this article were involved in this campaign through reviewing and writing reports for NGOs (Bakker, Kishimoto, and Nooy, 2017; Sopaheluwakan et al., 2017). The initiative has so far been successful in slowing down land reclamation and preventing the closing of the Bay. It has also done a good job in contributing to make the city's flood management plans a prominent topic of public debate (Savirani and Aspinall, 2018). For Jakarta's urban poor grassroots network, the coalition is expanding the existing city based issues to networks at the national, regional, and even global levels. Conversely, connecting urban struggles for housing rights with agrarian movements against land and resources grabbing offers the promise of re-building support for Indonesia's peasant movements, many of which were decimated because of more than thirty years of the New Order regime (White, 2015), the self-titled authoritarian regime (1965–1998) in Indonesia led by General Suharto which steered the violent restoration of a pro-capitalist order (the New Order) after the nationalist socialist democracy of prior decades (Farid, 2005; Larasati, 2013). The New Order Indonesia is a capitalist state (Hiariej [2003]; see Sangadji [2021] for a more loose conception of “state and capital”) in which the state has the right to the majority of land and to issue large-scale land concessions. It is a “concessionary capitalism” (Batubara and Rachman, accepted, Chapter 3 of this thesis).

This paper stems from our interest and participation in these ongoing conversations and forms of activism. We have come to realize that the ambition to link urban and rural struggles is a recurring one in discussions that happen in the circle of Indonesia's urban and agrarian activists. Our exposure to and involvement in those conversations forms an important background, inspiration, and motivation for writing this article. We are enticed by the proposal to see urban and rural struggles as connected, requiring a collective strategy to question and ask for alternatives to forms of development that are uneven and exploitative. The paper, therefore, aims to create a firmer conceptualization of the relationship between what happens in cities with what happens in the countryside. It does this by exploring and substantiating how the uneven outcomes of development in cities (with those most at risk from floods and evictions belonging to low-income neighbourhoods) are linked to processes of differentiation in the countryside (with schemes to intensify agriculture or conserve forests benefitting some at the expense of many). We argue that cities and countryside are not just subject to similar processes of uneven capitalist development, but that they are also dialectically related to each other.

Our analysis is done from a concern with the fate of those living in flood-prone areas in Jakarta. This means that rather than providing new insights into processes and mechanisms of differentiation in the countryside, we aspire to contribute to explanations of the precarity of those living in Jakarta's flood-prone areas. We do this by bringing insights from critical urbanization studies such as present in the edited volume by Brenner

(2014) into conversation with rural and ‘peasant’ focused critical agrarian studies (Peluso and Vandergeest, 2020; Aditjondro, 1998). We analyze urbanization as a specific (post-) New Order manifestation of state capitalism that works to leave large segments of the population in an extremely vulnerable position because they are without means of production and without access to formal employment.

We discuss our theoretical reflections against empirical evidence from Indonesia, focusing specifically on Java. Part of this empirical knowledge comes from over a decade of working with urban grassroots coalitions contesting evictions in Jakarta and agrarian social movements fighting for land right.

4.2 CONNECTING THE CITY WITH THE COUNTRYSIDE: INSIGHTS FROM URBANIZATION STUDIES AND CRITICAL AGRARIAN STUDIES

The importance of strengthening the connections between the politics of the city and those of countryside has been repeatedly stressed by both critical urbanization scholars (Merrifield, 2013; Goonewardena, 2014; Ghosh and Meer, 2020) and those critically studying agrarian differentiation such as the first editorial of *Agrarian South: Journal of Political Economy* (AS, 2012). Both sets of scholarship make a similar plea: to look beyond the city as a spatial or ontological unit to theorize processes of urbanization, or to explain what happens in the city by referring to what happens in the countryside. Urbanization and agrarian scholars do this with a similar aim: generating a critical, action-oriented research agenda to contest the uneven outcomes of capitalist development. One central theme in both bodies of scholarship is a critical interrogation of the ways in which the urban – rural binary and related spatial demarcations separating the city from countryside seem natural or self-evident.

Breaking with this bias, critical urbanization scholars have, for example, pointed to the distinctly capitalist nature of urbanization, showing how the very demarcation between urban and rural is set in motion – and thus the effect of – a spatial concentration of the means of production and labour power in cities to help optimize the extraction of surplus (Marx, 1867[1982]: 772–781). Agrarian scholars have similarly bridged the divide by appreciating how both spaces are produced by and connected through processes of uneven capitalist development. Both Kautsky (1899[1988]) and Engels (1970[1976]) asked how to transcend the divide between urban labourers and rural peasants, a question that continues to figure with some prominence on the agenda of the contemporary transnational agrarian movement (Borras, Edelman, and Kay, 2008: 170). AS (2012: 9) underscores how, in today’s era of monopoly finance capital, Kautsky’s and Engels’ proposals to connect urban exploitation with the eviction of peasant populations from the countryside remain urgently relevant. Although this relationship is amply theorized, agrarian studies and peasant studies in particular, have also been critiqued for having a bias toward the ‘peasant producer’ as political category in rural-based struggles and as

analytical category around which social differentiation and resistance is operationalized (Jansen, 2014).

Within critical urbanization theory, the question of how to articulate and politically mobilize the relations between the city and the countryside is particularly prominent in the thesis of planetary urbanization (PU) proposed by Neil Brenner (2014). Anchored in Lefebvre's (1970[2014]: 36) hypothesis that "society has been completely urbanized", Brenner (2014) calls for a re-theorization of the urban. PU proposes destabilizing the narrow conception of the urban as the spatial unit of the city by theorizing the processes through which cities – but also other spaces far outside and beyond (tar fields, pit mines, deforested lands) – are produced.

PU (Brenner, 2014: 21) mobilizes the term "extended urbanization" to refer to how the city needs to 'extend' to the countryside to continue functioning. Tracing how space, nature and society are transformed in the function of capitalism, Brenner and Schmid's ([2014]: 731; republished in Brenner [2014]) PU thesis takes issue with the "urban age thesis" of critical urban scholarship, as for instance reflected in Mike Davis' (2006: 1) *Planet of Slums*. Their critique is that this scholarship tends to accept the urban-rural divide through statements such as: "the urban population of the earth will outnumber the rural". This is reflecting and reproducing a "methodological cityism" (Angelo and Wachsmuth [2015], first published 2014 and republished in Brenner [2014]), that over focuses on assumed spatially-bounded city to the analytical neglect of processes of urbanization. Brenner and colleagues (in Brenner [2014]) maintain that the analysis of processes of urbanization should be done at the scale of the planet to draw attention to the connectedness and similarities between the forms of globalizing capitalism that produce urbanization.

For our aim – i.e. connecting urban and rural social movements in Indonesia – it is more useful to ground the analysis in the particularities and specificities of urbanization in Indonesia, without forgetting how Indonesian processes of urbanization are part of, shaped by and connected to global flows of capital. In thinking through our theoretical-methodological approach, we were inspired by the rejoinders to PU (Peake et al., 2018) which emphasize how any analytical engagement with urbanization is necessarily rooted in specific experiences and part of specific political agendas. These scholars warn against attempts (such as Brenner's) to theorize 'the global urban' from an unidentified position, because it risks perpetuating a colonial or imperial gaze that implicitly takes the own (often European) urban experience as the reference and norm (McLean, 2018; Reddy, 2018). We, therefore, insist on firmly anchoring our analysis of urbanization in the specific Indonesian experience. We follow Peake's et al. (2018: 380) suggestion to develop a "dialectical theory of urbanization", going back and forth between the empirical and the theoretical, as well as between the city and the country, in appreciation of how "elements, things, structures and systems do not exist outside of or prior to the processes,

flows, and relations that create, sustain or undermine them” (Harvey, 1996a: 48–56). This means we consider cities and the countryside, as well as the overall system to which they belong, as appearing in a certain form because of the processes and relations through which they are constituted.

Our attempt builds on a long Indonesian tradition of activist-scholar alliances within rural political ecology and agrarian studies that have produced insightful analyses of how capitalist development has transformed space, society and nature in rural areas. We draw inspiration from Nancy Lee Peluso’s seminal work on the ‘political forest’, where she shows how the state’s spatial demarcation of land as forest in need of public protection and conservation that served to rationalize the dispossession of millions of people (Peluso and Vandergeest, 2001; Vandergeest and Peluso, 2006a) has increased dramatically under the New Order regime (Peluso, 2011). George Junus Aditjondro analysed dam development as another important and parallel state-led process which deeply altered the countryside. Dam development for hydropower and agricultural intensification created what could perhaps be called ‘political water’ in analogy with Peluso’s ‘political forest’, as it also required mass evictions of local populations (Aditjondro, 1993 and 1998).

In the last decades in Indonesia, forest conservation and agricultural intensification together were the cause of processes of social differentiation, as well as of dispossession and impoverishment in the countryside. Several analyses have documented how the resulting disconnection of a large section of the population from their sources of livelihood and means of production (Habibi and Juliawan, 2018) produced a flux of rural-to-urban migration (White, 1977; Hugo, 1982; Azuma, 2000; Bachriadi and Lucas, 2001; Breman and Wiradi, 2004). Those migrating were transformed into what Marx (1867[1982]: 781–794) called “relative surplus population (RSP)”: people that are in surplus of industrial needs. This forces them into a situation of continuous precarity, with many of them working in the so-called informal sector. Ghosh and Meer (2020: 12–13) refer to the “surplus population” caused by agrarian differentiation as the “labour dimension” of extended urbanization.

Being precise about who the surplus population are and where they come from is important, which is why there is indeed merit in replacing the oft-used term ‘informal economy’ (Bhalla, 2017: 295) with Marx’s RSP. Marx said that there are four types of RSP: floating, latent, stagnant and pauperism (Marx, 1867[1982]: 794–802; well-systemized by Habibi and Juliawan, 2018). Workers in the usually “unregistered, untaxed and generally unregulated” informal economy belong to Marx’s stagnant RSP (Habibi and Juliawan, 2018: 4), with the characteristics of an “active labour army, but with extremely irregular employment” (Marx, 1867[1982]: 796; quoted in Habibi and Juliawan, 2018: 4). Lane (2010: 185 and 188) identified these people as *Kaum Miskin Kota* (KMK, urban poor), the “nonindustrial proletariat”, as important constituents of the movement that overthrew Suharto in 1998. A large part of this population are documented

as moving to the city because of rural land dispossession (Habibi and Juliawan, 2018: 15–16).

We mobilize Angelo and Wachsmuth's (2015, 19) identification of two dialectically-interconnected processes of urbanization, sociospatial and the socionatural differentiation, to structure our analysis. The former, the 'in and beyond-city sociospatial reconfiguration' or the "Lefebvrian moment", is concerned with how capitalism reorganizes space in uneven ways. The latter refers to the entanglement of society and nature, highlighting how both are (re-)produced under capitalism. Specifically distinguishing socionatural processes of urban differentiation is useful as it draws attention to how urbanization transforms and often erodes or exhausts ecological functions. In our analysis, we emphasize how the sociospatial reconfigurations (the aforementioned political forests and political waters) and socionatural transformations (soil depletion, erosion, changes in water flows) in rural areas can be linked to the sociospatial reconfigurations (the expansion of the city) and socionatural transformations (increased proneness to floods and responses to this) characterizing the city. True to dialectical tradition, our choice for focusing on these processes and relations instead of others is importantly informed by their potential to energize new political alliances between the city and the countryside.

4.3 METHODOLOGY: RECONSTRUCTING AND TRACING URBAN MARGINALIZATION TO THE COUNTRYSIDE

The first author complemented the knowledge gained through his involvement with social movements by multiple episodes of fieldwork conducted between 2016 and 2017. In 2016, five months (February–April and July–September 2016) were spent in Bukit Duri, one of *KMK*'s settlements in Jakarta. The other half of 2016 was also spent in Jakarta, but outside of Bukit Duri. In 2017, 3 months (September–November 2017) of fieldwork was conducted in the Kedungwringin Village, the District of Kebumen, Central Java Province, around 400 km far away from the capital Jakarta (Figure 4-1, Map 1 and 5).

To begin with, in 2016 we engaged with Jakarta's *KMK* through 100 interviews with residents in five neighbourhoods who were either threatened with eviction (Kampung Lodan, Jalan Tongkol, Kampung Tebu) or had already been evicted (Bukit Duri and Waduk Pluit) due to the planning and development of flood infrastructures (Figure 4-1, Map 2 and 3). All interviewees were members and networks of the grassroots collectives of the Urban Poor Consortium or the Urban Poor Network (UPC/JRMK), both contesting the eviction. Our engagement with Jakarta's *KMK* was helped by and based on the prior involvement of the first author since 2004 and of the last author since 2002 with UPC. The objectives of the conducted interviews were to understand the origin of *KMK*: why do they live there, where do they come from, and what kind of job(s) they do. We were also interested in knowing whether they (still) owned land in their place of origin, if

indeed they came from somewhere else. While the sample was not statistically representative of the entire Jakarta's *KMK*, we combined our primary evidence with the analysis of secondary sources documenting the processes through which capitalist development in Indonesia has unfolded, and their impact on rural land rights and village lives, particularly under the period of (post-) New Order Indonesia (1965–1998 and 1998–now). Doing this allowed us to see that what our interviewees told confirms what Indonesian urban migration scholars using much larger sample sizes have concluded about rural-born people in Jakarta (Papanek, 1975; Temple, 1975; Hugo, 1982; Azuma, 2000).

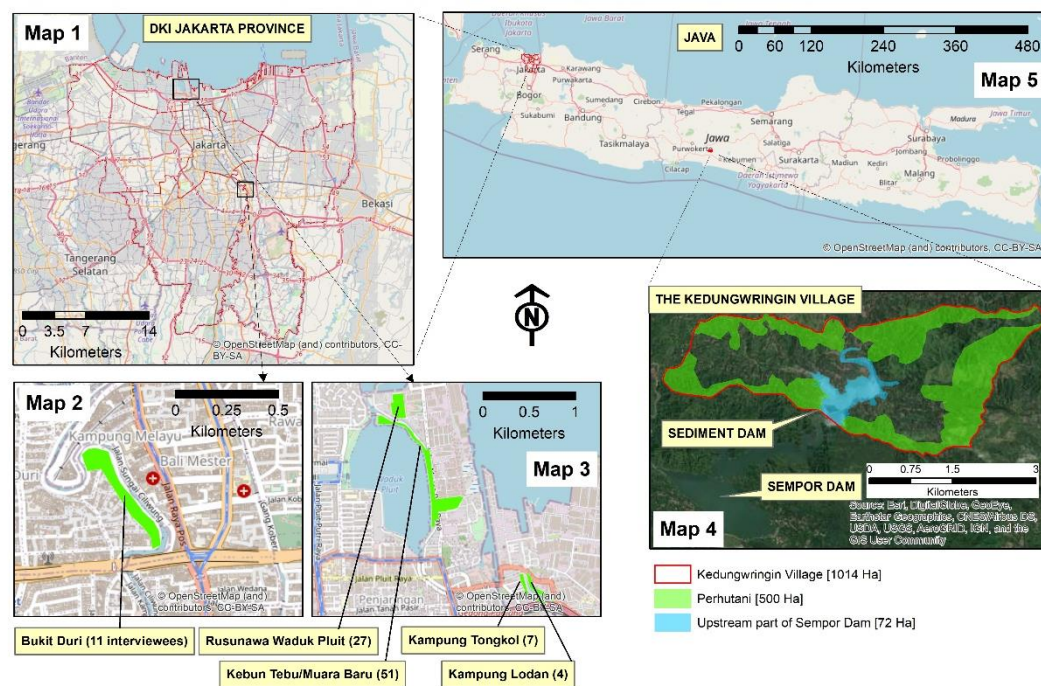


Figure 4-1: Interviewees' locations in Jakarta and the Kedungwringin village in Central Java.
Basemaps: OpenStreetMap (1, 2, 3 and 5) and World Imagery (4).

To link urban living and experiences to what happened in the countryside, we then interrogated our interview database to identify to what place of origin we could go, to further examine the drivers of migration to the city. Insight into the respondents' backgrounds led us to conduct a second data collection in one of the identified places of origin: Kedungwringin Village. In Kedungwringin Village, the first author did participatory observations and interviewed 30 adults. We traced the historical dynamics of both political forest and political water by interviewing the state-owned forest company's officers from the village-level up to its district and regional offices in the city of Purworejo and Salatiga; the municipality water company (PDAM) officer in the city

of Kebumen; and the dam engineer in the town of Gombong. All four cities are located in Central Java Province.

In Kedungwringing, in addition to formally interviewing 30 adult villagers, the first author spent his daily life together with the Kedungwringin villagers (tapping *Pinus* trees, planting cassava, fixing broken water pipes, participating in or simply attending regular neighborhood/hamlet meetings in the night, attending wedding ceremonies, etc.). The story of one of the former Kedungwringin residents, Ibu Siji (pseudonym) is used to organize and empirically anchor the dialectical urbanization of the *KMK* urban dwellers. Her migration history is emblematic and resonates with the spikes in urbanization in the era between 1970 and 1990 under the New Order regime (Kompas, 1977 and 1992). Previous engagement of the first author with the ‘art for the people movement’ – part of the ‘forerunner of “participatory action research”’ (White [2015]: 9; see, Kusni [2005]) – defending farmers’ land rights against army occupation in Kebumen District (Mariana and Batubara, 2015) helped situate Ibu Siji’s experience in wider processes of agrarian differentiation and movement dynamics. In linking the various experiences of rural and urban people, we also drew on numerous rich studies of agrarian differentiation in rural Java. This alerted us to the particular importance of the role of state (Hart, 1988) in providing both the “context” (claim over forest and modernization of irrigation infrastructure) and the “process” (land dispossession) (White, 1989: 25–26) of Indonesia’s ‘extended urbanization’.

4.4 SOCIOSPATIAL RECONFIGURATIONS UNDER/THROUGH NEW ORDER

Ibu Siji decided to move to the city in 1980 following the negative impact of processes of sociospatial reconfiguration in her rural home village Kedungwringin on her economic opportunities. First she moved to the city of Bandung, in West Java, where she stayed for less than a year, working mostly in the informal sector. She then moved to the capital Jakarta, where more opportunities were available. Renting a room in the low income settlement near Waduk Pluit (a reservoir for water retention), she met her husband. Together, they worked in the informal sector, producing and selling food. They made enough money to buy their own room along the banks of Waduk Pluit. Following the eviction of the Waduk Pluit settlement in 2013, they moved to and now live in a nearby *Rusunawa* (a simple rental apartment) Waduk Pluit. Like Ibu Siji, the majority of the respondents of our survey (83) were not born in Jakarta, with 76 of them coming from rural villages. Only 3 of our interviewees can be classified as ‘formal economy’ workers, the rest are working in the ‘informal economy’.

In Ibu Siji’s village of Kedungwringing, the 2016 census categorizes around 49% (356 out of 726) of farming households as landless (KW, 2016). This is a high percentage when compared to for instance the 7 villages in the 1970s Central Java recapitulated in Hart (1978: 93), in which the percentages of villagers without cultivable land were 40, 34, 43,

22, 10, 39 and 17%. Ibu Siji's family, as well as many of the 355 other villagers, lost their lands through two processes of sociospatial reconfiguration: the appropriation of village forests, and the construction of a large dam by the state. As for the first, almost half of what used to be village land (1104 hectares) in Kedungwringin is now owned by the state company Perhutani (500 hectares). This forest land was appropriated by the state for purposes of timber production and forest protection and conservation (Figure 4-1, Map 4).

This process of turning village land into forest exemplifies what Peluso and Vandergeest (2001) have termed *political forest*: the enclosure of forest lands by the state. As Peluso (1988: xvii) notes, "village enclaves in the teak forest are among the poorest of the poor forest villages". Political forest then explains the relatively high percentage of landless people in Kedungwringin. Ibu Siji's village was far from exceptional. According to the company profile, Perhutani currently controls almost 2.5 million hectares of land (Perhutani, 2019: 2) across 6381 villages (Diantoro, 2011: 22) in the island of Java and Madura. With the enactment of the Basic Forestry Act 5/1967, the New Order regime claimed the majority of the country's land as state forest (see, Peluso [2011]; Li [2001]; Ascher [1998]; Barr [1998]). From 1967 onwards, the New Order state extended its 'political forest' to the forested lands on Indonesia's outer islands that had so far remained untouched (Vandergeest and Peluso, 2006a, 2006b; Barr, 1998; Gellert, 2003), dividing forest lands into several categories (Siscawati, 2014), including that of 'industrial forest'. By 2018, 63% of Indonesia's land area was demarcated as *kawasan hutan* or forest area (MEF, 2018: 7). The Basic Forestry Act 5/1967 also made it possible for the New Order regime to allocate large-scale logging concessionaries to non-state companies, paving the way for massive capital investments in the logging sector (Peluso, 2011; Li, 2001; Ascher, 1998; Barr, 1998). Between 1967 and 1980, 519 logging concessionaires covering a total area of 53 million hectares were given to non-state corporations (Barr, 1998: 6). One of these corporations was owned by Bob Hasan, Suharto's close friend, who became a prominent figure in Indonesia's timber sector. In 1970, Suharto recommended Hasan as the local partner for the USA-based giant timber company, Georgia Pacific. In 1976, Hasan established the Indonesian Wood Panel Association (APKINDO), essentially a cartel of 13 companies. In 1994, at the heyday of the New Order regime, this cartel controlled at least seven million cubic metres of wood, 57% of the then world total tropical woods (Barr, 1998; Gellert, 2003).

The opening up of forest lands for capitalist investment and appropriation was accompanied by the active discouragement of other users and uses of the land, often by rendering those illegal. Villagers who previously lived in and from forest areas, often accessing and using these lands as commons, were now forcefully forbidden from continuing to do so. The New Order regime disqualified customary claims to land and forests, as these – by being anchored in attachments to specific places – stood in the way

of the exchange and trade of land that was deemed necessary for realizing the state's ambitions of control and profit-making (Vandergeest and Peluso, 2006a; Peluso, 2011).

In the village of Kedungwringin, the process of dispossession caused by commercial forestry was extended and deepened through the active promotion of more intensive and industrial forms of agriculture. From 1972 to 1978, under the national programme of agricultural modernization and irrigation associated with Green Revolution policies, the state funded the construction of the Sempor Dam to provide irrigation water for 6485 ha of farmland surrounding the village (DPU, 1993). Through this, another 72 ha of land was claimed by the state, including the land of Ibu Siji's family (Figure 4-1, Map 4). The example of Kedungwringin is not an isolated case, but a typical illustration what happened across all of Indonesia. Sempor Dam was only one of 33 large dams built in Indonesia between 1972 and 1990 (Aditjondro 1998, 30–31), and just five of these dams alone were responsible for evicting 100,000 villagers from their land (Aditjondro, 1993: 12; Magee, 2015: 230).

Like the capitalist creation of forest land for 'productive use', so too did agricultural modernization benefit some Indonesians, at the expense of others. Those who did benefit, summarized by Rachman as only 20–30% of Indonesia's rural population, managed to accumulate more capital and land (Rachman, 1999: 166–167), and invested their capital in non-agricultural sectors (Hüsken and White, 1989: 36). The resulting social differentiation in the countryside is clearly manifest in the gradual rise in the percentage of landlessness among Indonesia's peasants: from 21% to 30% to 36% of the agricultural/rural population in 1983, 1993, and 2003, respectively. This trend is also reflected in Indonesia's Gini ratio of landholdings of 0.64, 0.67, and 0.72 for the same years (Bachriadi and Wiradi, 2013: 50). The few, but increasingly powerful, beneficiaries of the capitalist agricultural production helped to secure the New Order regime (Hüsken and White, 1989; Rachman, 1999: 167).

When remembering how the Sempor Dam caused the expropriation of village land, Ibu Siji herself describes it as a process of dispossession – *sawah ditenggelamkan, dibeaskan begitu aja* – which means: the sawah was flooded, it was made free (from us). Although considered unjust, she said her family was afraid to resist or protest. Ibu Siji's story echoes that of other people we spoke to in Jakarta. In our interviews, of the 76 respondents coming from villages, 55 came from households who did not have access to land for production. For many, the dispossessions they experienced in their home villages formed the start of a spiral of marginalization and impoverishment. In Indonesia as a whole, these dispossessions happen(ed) through the largescale allocation of land to state and non-state actors, i.e. for the use of plantation, forest conservation, logging, extraction of minerals (mining), energy (oil, gas and geothermal), infrastructure development and military occupation (KPA, 2020) and 'intimate' exclusions between villagers motivated by expansion of commercial tree crops such as cocoa and oil palms (Li, 2014).

4.5 SOCIONATURAL TRANSFORMATIONS UNDER/THROUGH NEW ORDER

The second set of processes responsible for making it ever more difficult to make a living in the countryside are intimately related to the first. They relate to how the development of capitalism changes – works through – the environment (Angelo and Wachsmuth, 2015; Tzaninis et al., 2020). These socionatural transformations are the combined effect of the sociospatial reconfigurations we described above: ecological degradation and the deterioration of ecological functions.

A first form of ecological degradation in Kedungwringin is the steady decrease in land fertility, caused both by commercial forestry and commercial agriculture (irrigation water and dam development). In the 1970s, Perhutani replaced native tree species – *Jati* (*Tectona grandis*), *Angsana* (*Pterocarpus indicus*), and *Juar* (*Senna siamea*) – with *Pinus*. One of the arguments for this replacement was to conserve the catchment area (Perhutani, 2015: xv and Lampiran PDE-2). Yet, the *Pinus* tree produces allelopathy, a chemical which makes *Pinus* outcompetes other plants in their search for soil nutrition (Fisher, 1987). As was explained by a Kedungwirin villager, the *Pinus* tree also outcompetes other plants in capturing water and sun. In addition, *Pinus* tree leaves have a tough, wax-coated cuticle, making their natural decomposition slow and difficult. As a result, even though Perhutani employs the “*tumpang sari*” system (Peluso, 1988: 68; Peluso and Purwanto, 2018: 32), i.e. allowing villagers whose land was enclosed by the forest to plant crops below the *Pinus* trees, yields are very low. One villager we spoke to told us how his yield of cassava under the *Pinus* tree is 70% less compared with that outside of *Pinus* plantation areas.

Changes in water flows are a second socionatural transformation which is directly linked to the sociospatial reconfigurations caused by political forests and political water. Villagers we spoke to report their wells drying up, with the flow of water in springs and rivers in the dry season only half of what they used to be before *Pinus* were planted. They attribute these changes in hydrology to the planting of *Pinus* trees in the upland area of Kedungwringin. Indeed, a study carried out elsewhere seems to confirm that *Pinus* trees both consume more water than many other crops, while also reducing percolation and runoff. This decreases the availability of groundwater in nearby wells, and reduces discharge into springs and rivers (Huber, Iroumé, and Bathurst, 2008).

Water is not only drying up in the places where villagers need it, at times there is also too much water. With land previously used for growing rice now enclosed by the Sempor Dam and reservoir, villagers plant *padi* (rice), corn, cassava and peanuts in the reservoir area – on so-called ‘project’s land’ (*tanah proyek*) – in the dry season, when the water level falls. This is a risky practice, for when the water levels in the reservoir rise, their plants risk getting flooded. Inundation of the crops is more frequent since 2008, so villagers’ crops get damaged not only at the end of the rainy season when levels in the Sempor Dam rise, but (as we saw ourselves in October 2017) can get flooded after only

three days of rain. This is the continuing impact of Sempor Dam, which – in 2008 – required a sediment dam to be built upstream, to maintain functionality for those reliant on water supply, electricity, and irrigation water (Figure 4-1, Map 4). The impact of this sediment dam for those villagers who rely on land in the project’s area is that their crops gets flooded more frequently. Farmers not just lose their crops, but also their investments of time and labour. One farmer we talked to had lost three million IDR (around 210 USD according to mid-2020 currency) over one rainy season. This includes the labour undertaken by himself and his family to cultivate the rice, corn, cassava, and peanut seeds.

Who benefits from the loss of the farmers? Sustaining the production capacity of Sempor Dam (1 Megawatt installed capacity) is crucial for the profits of the electricity company of Indonesia Power, a subsidiary of the National Electricity Company/PLN (Indonesia Power, 2016: 26). The three municipal water supply companies who rely on the reservoir for the raw water to supply their piped water services also need the dam to function for their profits. The dam supplies 150 l/s of water for the municipality water companies of Gombong, Karanganyar, and Kebumen, all located downstream (PDAM Kebumen, 2017). The annual revenues (if there is a surplus) should go to local governments, ostensibly to invest in expansion. In practice, it is now widely recognized that they are often used to line the pockets of officials or finance election campaigns.²⁰ But while the land and crops of Kedungwringin, and the other villages upstream of Sempor Dam, are sacrificed to produce electricity and water supply (and profits of the companies), their access to these services is very limited. During our stay in Kedungwringin we were often without electricity from PLN, sometimes for the entire day and night. As for water: access to it is highly uneven in Kedungwringin. A few residents can afford to dig deep wells to secure their water needs. The rest rely on the intermittent supply of piped water to the village water tank, often standing in line for more than two hours during morning rushes to fill their containers.

Not all in Kedungwringin experience the effects of these changes in the same way. The case of Pak Loro (pseudonym), a forest labour foreman (*mandor sadap*) of Perhutani, can serve to illustrate a ‘qualitative’ form of agrarian differentiation that happened through a change in “relations” (White, 1989: 20) between villagers. Pak Loro was born in Kedungwringin in 1965; in Hart’s (1988: 263) words, he managed “to access the resources and patronage of the state” and therefore never migrated to a big city. He spent 6 years in elementary school in Kedungwringin and another 3.5 years in the technical school in the nearby town of Gombong. After his education, he joined a dam development project in the nearby sub-district of Wadas Lintang for one year, before coming back to Kedungwringin. In 1990, he was lucky enough to join Perhutani, when the company

²⁰ Conversation with an Indonesia’s drinking water expert (June 23, 2020).

sought local employees. At the time of interview he was a *mandor sadap*, and his main responsibility is to increase Perhutani's production. He organizes regular meetings every 36 days among his fellow villager *Pinus* tappers, to persuade them to keep tapping even in times of low prices. He forms the bridge between Perhutani and the tappers, making sure that all the needed tools are available for the tappers, as well as organizing the collection of the product, the resin of the *Pinus* trees. Perhutani pays him regularly and enough to allow him to expand, for instance by paying fellow villagers to work for him in his recent experiment with growing around 1,000 coffee trees under the *Pinus* trees of Perhutani. The employment of villagers by the very companies responsible for sociospatial and socionatural configurations is the "mechanism" (White, 1989: 26) through which processes are entangled with qualitative social differentiation between villagers to create or accelerate social inequalities.

As we showed for the sociospatial reconfigurations prompted and required by capitalist development, the socionatural transformations we identify are also not specific to Kedungwringin. At the national scale, the repeated forest fires in Sumatra and Kalimantan (Gellert, 1998) are other forms of ecological deterioration that can be characterized as (part of) ongoing socionatural transformations. The forest fires of 1997–1998 in Central Kalimantan, for instance, took place on land deforested to make place for irrigation canals as part of the 1990s agricultural modernization projects of Suharto's 'Million Hectare' Peat Land Development Project. Deforestation, landscape reconfiguration, and irrigation canal development combine to allow land enclosures and commodification typical for processes of accumulation by dispossession, but they also transform ecological processes: canal networks drain the peat lands, leading to the oxidation of organic matter and the formation of acid that in turn causes the rapid decomposition of peat, making it highly flammable (McCarthy, 2013: 197; Goldstein et al., 2020).

Socionatural transformations thus draw attention to how nature is metabolized through social processes: the production of timber from forests, or the production of water and energy from dams entail the production of new natures, new landscapes. In Kedungwringin both the political forest and dam development provoked changes in water flows and caused ecosystem degradation. PU conceptualizes these forms of extended urbanization as operational landscapes: the production of spaces or territories needed to sustain densely populated cities (Brenner, 2014: 20). These operational landscapes therefore exist in function of large cities and mega-urban regions, to which we now turn.

4.6 CONNECTING COUNTRY TO CITY: SOCIOSPATIAL AND SOCIONATURAL DIFFERENTIATION

Together, dispossessions and degradations mark processes of development in the Indonesian countryside that make it ever more difficult to make a living here while also spurring processes of social differentiation. Like Ibu Siji, 25 out of 30 interviewees in

Kedungwringin have experience of migration (*merantau*) to big cities with the majority of them (19) to Jakarta, working in informal sectors – in search of alternative possibilities to earn incomes and make a living. In Jakarta (but also in other cities, like Semarang), the only places they could and can afford to live and dwell are settlements precariously situated along or on top of river and water retention banks. By doing so, they contributed in transforming the city socionaturally, making it more prone to floods. These socionatural transformations in both rural and urban areas are entangled with the sociospatial reconfigurations caused by the expansion of Jakarta's boundaries into the surrounding areas of the Jabodetabek agglomeration, which in the early 2000s already had a total population of almost 30 million (Rukmana, 2013).

The city's official population increased from less than 3 million in the 1960s to more than 10 million in the 2000s (BPS, 2021). Much of this increase comes from processes of migration illustrated by Ibu Siji. Yet, the majority of urban poor migrants remain undocumented, as less than 10% of all migrants eventually register at the Jakarta municipality (Kompas, 1977; 1985; 2003). In the 1970s, migration contributed more than half of Jakarta's population increase (Papanek, 1975: 1). Many of those migrants come from rural areas: 63% of the 3,197 registered or official migrant residents and 80% from the 1,180 unregistered migrant residents indicated having come from the countryside (Temple, 1975). As in other countries, the COVID-19 crisis in Indonesia has made some of these rural migrants more visible. In April 2020, 600,000 Central Java Province migrants returned to their villages mainly from Jabodetabek (Gea et al., 2020); in Kedungwringin 90 migrants had returned, also from Jabodetabek (*Whatsapp* conversation with villager, April 15th, 2020).

In this way, we see urban precarity and unevenness as causally linked to the uneven outcomes of development processes in the countryside: those residents of the city who are most vulnerable to eviction or flooding (or both) are also the ones who have been previously dispossessed – 'evicted' from their rural villages – to make place for those deemed worthier of state support and protection: capitalist entrepreneurs and investors, many of whom have connections to the New Order regime. Through a theoretical focus on the process of urbanization, it becomes possible to trace and acknowledge such connections, showing how urbanization is dialectically linked to the systematic expropriation of the rural population, depriving them of their ability to provide subsistence for themselves, and forcing them to seek employment for livelihoods in the city's informal sector. This, in turn, allows an understanding of the unevenness of urbanization as the outcome of systematic processes of accumulation by dispossession: the creation of a highly mobile and vulnerable category of people – the majority of *KMK*, who depend on irregular work to make a living.

Classical theories of primitive accumulation explain how the labour of the dispossessed will be absorbed in manufacturing, seeing dispossession as a "point of departure" (Marx

(1867[1982]: 873)) for industry. As Li has noted in her study of land dispossession in rural Asia, many people excluded from land in their villages are not fully absorbed in factories; their labour is in excess of requirements: “places (or their resources) are useful, but the people are not” (Li, 2009: 69). Across Indonesia, scholars have calculated an increase in the country’s stagnant RSP, particularly since the start of New Order regime, from 5 million in 1986, 9 million in 1996, 14 million in 2001, 16 million in 2006, and 20 million in 2014 (Habibi and Juliawan, 2018). Scholars of postcolonial cities similarly note how a gradual disconnect of capital from labour hinders the transformation of peasants into wage labourers: they instead become a RSP as capital is increasingly invested in infrastructure and real estate rather than in factories (Schindler, 2017). This differs from experiences of urbanization in Northern countries, where those dispossessed by land enclosures in the countryside were absorbed in cities’ industrial sector. In Indonesia, many of the rural migrants going to the city depend on jobs in the informal sector to make ends meet.

4.7 CONCLUSION: CONNECTING RURAL AND URBAN STRUGGLES

In this article we explore how theories of urbanization can help to create a politically useful narrative of uneven development across Indonesia. Inspired by theories and methodologies that question urban-rural divides, our first contribution is documenting the connections between uneven development processes in the city and those in the countryside. We do this by showing how the existence of precarious urban settlements is related to the enclosures of rural land and processes of environmental degradation. Increased landlessness and deteriorated ecological functions in the countryside produce waves of migrants who settle on marginal flood prone urban land. Without secure land tenure and through their production as ‘unproductive’ subjects, they are continuously threatened by future evictions. We used the village of Kedungwringin to present empirical moments through which these relations can be illustrated and traced, as well as an entry point through which to document these processes nationally and in ways that link shared experiences of rural enclosure (e.g. political forest and political water) and urban dispossession induced by flood management politics. We explain these urbanization processes of sociospatial and socionatural change and differentiation as integral to the specific form of capitalist development of Indonesia’s (post-) New Order regime.

Our second contribution is three-fold and relates to bringing critical urban studies in conversation with critical agrarian studies to understand the dialectical nature of urban-rural dispossession and related social differentiation. First, we argue that the dangerous ‘urban age thesis’ – with its tendency to accept the rural-urban divide – is not only adhered to by urbanization scholars such as Mike Davis as we highlighted above, but also by agrarian scholars (see for instance Bernstein [2010: 2]). Second, this approach enabled us to nuance and qualify the ‘relative surplus population’ (RSP) through the lenses of agrarian studies of capitalist relations (Li, 2009) and critical urbanization (Ghosh and

Meer, 2020), and building on the critique of urban informality (Bhalla, 2017) and development of Indonesia's RSP (Habibi and Juliawan, 2018). The paper identified informal workers as the 'stagnant RSP' that corresponds with the Indonesian urban term of *Kaum Miskin Kota/KMK* (Lane, 2010). Third, it was argued how processes of urban precarity and rural differentiation are mutually reinforcing under the specific capitalist development of Indonesia's (post-) New Order regime. This observation calls for an iteration of the PU thesis in order to nuance planetary, path dependent processes of urbanization by situating them in post-colonial transformation settings and showing the distinctive processes of social differentiation (Li, 2014). Our nuancing of the PU thesis helps recognize the distinctly Western origin of prevailing conceptualizations of urbanization. This most clearly shows in the emphasis on industrialization as a main driver of urbanization and in the belief that the dispossessed will be absorbed by industry's demand for labour (Marx and Engels, 1848[2008]: 33–66; Engels, 1872: 3; Marx, 1867[1982]: 866; Lefebvre, 1996; Amin, 1976: 203–204; Schindler, 2017: 6–7). As other scholars have already noted, this enables a focus on post-colonial transition narratives in line with what Amin (1976: 206) and Davis (2006: 14) identify as "urbanization without industrialization"; the destruction of pre-existing agrarian society on one side, and the insufficient capacity of industry to absorb the dispossessed on the other.

Questioning and asking for alternatives to forms of development that are uneven and exploitative requires broadening bases of political support. This is even more important, and yet also more difficult, in an era of tightening political control by the national government and the closing down of spaces of dissent (Wijayanto et al., 2019). Perhaps there is nevertheless some hope in the collective impacts of COVID-19 measures in Indonesia, and the disarray of government responses. Moments that fuel the hope of better connections between rural and urban social movements include the collective solidarity movement that emerged during COVID-19; the resistance to labour union busting and environmental destruction; and the enactment of the omnibus bill on job-creation. The nascent example of the anti-reclamation movement in Jakarta Bay mentioned in the opening part of this article should ally with all of these movements. These coalitions can be organized in terms of resisting the state role in rural land dispossession, deforestation, massive replanting, and flooding; areas which we have identified as critical in the 'rural part' of the paper. Although patronage relationships, combined with the fact that some benefit from state support while others do not, divides class relations which in turn risks weakening and obstructing a more 'peasant-driven' type of social movement. The current reforms threaten to further a form of development which discards environments, and the people dependent on them, while delivering great benefits to a few. Asking whether this is really 'development', both rural and urban based movements are now seeing their own struggles are one, reflected in and related to each other.

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

Chapter 5 under embargo until January 2024

6

UNEVEN URBANISATION: CONNECTING FLOWS OF WATER TO FLOWS OF LABOUR AND CAPITAL THROUGH JAKARTA'S FLOOD INFRASTRUCTURE²⁹

Abstract: This article analyses processes of uneven urbanisation by looking at flood infrastructure. Combining the conceptual frameworks of uneven development with the political ecology of urbanisation, we use flood infrastructure as a methodological device to trace the processes through which unevenness occurs within, but also far beyond, the city of Jakarta, Indonesia. We do this to show how the development of flood infrastructure in Jakarta is shaped by the logic of capitalism through mutually implicated tendencies of socionatural differentiation and equalisation. These processes render waters, resources and labour as similar across places and times to produce different spaces for different populations, within and beyond city boundaries. This theorisation reveals how the urban

²⁹ This chapter has been published as: Batubara, B., Kooy, M., and Zwarteveen, M. (2018). Uneven Urbanisation: Connecting Flows of Water to Flows of Labour and Capital Through Jakarta's Flood Infrastructure. *Antipode*, 50(5): 1186-1205.

inequalities (re)produced by flood infrastructure are intimately linked to inequalities (re)produced through the urbanisation of the non-city.

Sari: Artikel ini menganalisis proses-proses urbanisasi yang timpang dengan menelaah infrastruktur banjir. Menggabungkan kerangka konseptual pembangunan yang timpang dengan ekologi politis urbanisasi, kami menggunakan infrastruktur banjir sebagai alat untuk melacak proses-proses yang menghasilkan ketimpangan baik di dalam maupun di luar kota Jakarta, Indonesia. Kami melakukan ini untuk memperlihatkan bagaimana pembangunan infrastruktur banjir di Jakarta dibentuk oleh logika kapitalisme melalui tendensi-tendensi yang saling melengkapi berupa pembedaan dan penyamaan sosioalamiah. Proses-proses ini menempatkan air, sumberdaya, dan buruh menjadi mirip melintasi tempat dan waktu untuk memproduksi ruang-ruang yang berbeda untuk penduduk yang berbeda, di dalam dan di luar batas-batas kota. Teorisasi ini menyingkap bahwa ketidaksetaraan-ketaksetaraan di dalam kota yang di(re)produksi oleh infrastruktur banjir terkait erat dengan ketidaksetaraan yang di(re)produksi melalui proses urbanisasi di luar kota.

Keywords: uneven development, political ecology of urbanisation, flood infrastructure, Jakarta, Indonesia.

6.1 PREVENTING WHOSE CITY FROM FLOODING?

On 20 August 2015, over 1000 police personnel were mobilised by the Special Capital of Jakarta's (DKI Jakarta) Provincial Government to remove the riverside settlement of Kampung Pulo in eastern Jakarta. The government justified this forceful eviction of 920 households on the basis of future safety for all through improved flood management. This was the same rationale that was used throughout 2015 for the eviction of other urban poor settlements. According to the Jakarta Legal Aid Institute (LBH-J, 2016) there were 113 evictions in Jakarta in 2015, with 40% of these being related to the city's flood management: 10 settlements were evicted to enhance water retention following rainfall, 38 settlements were evicted to widen 13 surface water channels flowing through the city and discharging into the Jakarta Bay, and four settlements were evicted to develop urban green space. In total, 8145 households were removed from their homes in Jakarta, with the majority of the residents belonging to the city's underclass, with incomes lower than minimum wage (LBH-J, 2016b). 2015 was not an exceptional year: the eviction of hundreds of thousands of low-income urban residents for flood control is a familiar feature of Jakarta's history (Gunawan, 2010: 305–361; Kusno, 2011; Sheppard, 2006).

That low-income urban residents have to make space for flood management is of course not specific to Jakarta. Also elsewhere, it is the poorest residents who live on the most precarious urban land, along rivers or in floodplains (Douglas et al., 2008; Satterthwaite,

2003). Very similar evictions of the poor for the sake of protecting the city from floods are documented for Tijuana (Meehan, 2014), Bangalore (Ranganathan, 2015), Kampala, Accra, and Nairobi (Douglas, 2016), and Manila (Ortega, 2016). Like what happens in Jakarta, a review of these analyses shows how urban flood management plans tend to use technical arguments to justify the deeply political selection of particular urban spaces as critical to new flood protection. The Jakarta government thus rationalises the clearing of urban poor settlements by referring to the technical exigencies of flood management: increasing flow capacities of rivers; the operation of pumping stations; or the creation of green and blue areas for increasing water retention capacity. The irony is that while some spaces are earmarked for clearing, development is allowed or even promoted in others, even when these are hydrologically sensitive areas (Rukmana, 2015; Texier, 2008).

We interpret this selective categorisation and production of urban spaces in relation to floods as a clear symptom of what Smith (1984[2008]: 4) has called a “hallmark of the geography of capitalism”, the uneven development of space. According to Smith (1984[2008]: 132-174), the uneven selection of spaces happens through parallel and intertwined tendencies of differentiation and equalisation. We mobilise Smith’s theorisation for understanding the history of flood protection interventions (and the spatial transformations these produce) in Jakarta because it allows inserting the understanding of flood management in a broader analysis of uneven development. In the name of improving flood protection, low-income housing areas and green spaces are converted into commercial super blocks in the middle of the city (Rukmana, 2015); high end gated communities in the urban agglomeration, or in the mega-city of Jakarta-Bogor-Depok-Tangerang-Bekasi/ Jabodetabek (Figure 6-1a) (Firman, 2000; 2004), and into other private- or industrial-led developments (Leaf, 1994; Winarso and Firman, 2002). Smith’s theoretical proposal allows grasping how these urbanisation processes extend beyond city borders, by making visible how they are part of wider spatial transformations that facilitate, or respond to, flows of capital and labour. For Java especially, the forms of industrialisation that happened after the fall of Suharto’s New Order dictatorial regime (1967–1998) (Kusno, 2013) were premised on forms of resource grabbing and extraction in the countryside that prompted the migration of millions to Jakarta. By empirically tracing such linkages, we show there is merit in understanding flood infrastructure as a specific manifestation of ‘capitalism at work’.

In this paper we propose an understanding of flood management infrastructure as part of and importantly co-shaping the socionatural transformations that produce urbanisation. To do this, we bring Smith’s theory of uneven development into conversation with the political ecology of urbanisation (PEU) (Angelo and Wachsmuth, 2015). We show that the city’s increased vulnerability to flooding is a result of urbanisation processes that reconfigure both rural and urban environments, while flood infrastructural responses are

also themselves a specific form of urbanisation, connecting spaces of agglomeration in the city with spaces of extraction in the non-city.

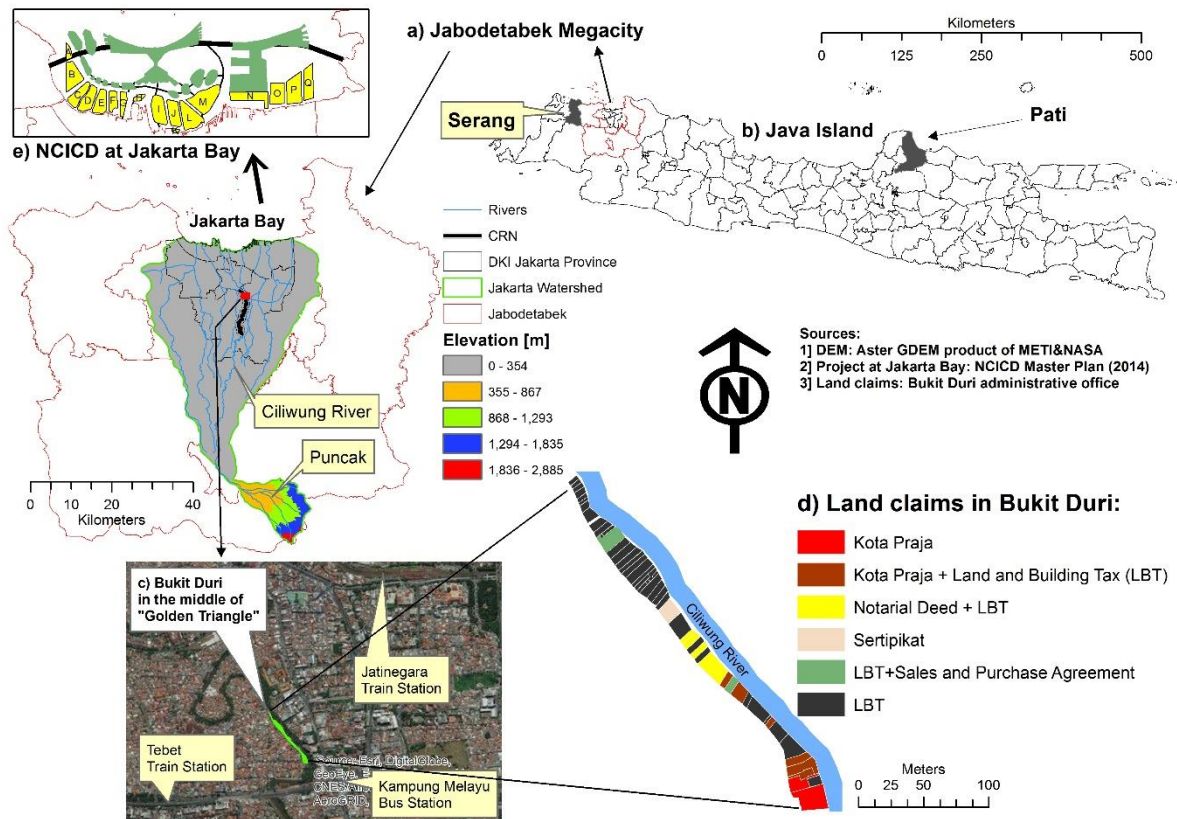


Figure 6-1: Maps and locations of many areas.

6.2 METHODOLOGY

In our analysis of uneven urbanisation we use flood infrastructure as a methodological device to identify and tease out the broader socionatural transformations characterising processes of urbanisation in Indonesia. Our choice of flood infrastructure is informed by its historical and current importance in the politics of the city. It is through particular flood protection plans and projects that decisions about who is flooded, evicted, or instead protected are made. It is telling in this regard that urban grassroots campaigns against eviction often use flood infrastructures as the rallying point of their protests. This illustrates how the tangibility and visibility of the transformations they produce – constructions, evictions, inundations – are not only a useful entry point for tracing processes of uneven urbanisation, but also for politically questioning and contesting these processes.

In our analysis we first use historical data to show how flood management plans are intrinsically connected to and sometimes originate in the economic and political relations characterising the New Order regime of Indonesia (1967 – 1998). We show how these relations have transformed, and to a certain extent been transformed by, the flood catchment in which Jakarta sits. Using two specific flood infrastructure projects in Jakarta – the Ciliwung River Normalization (CRN) project and the National Capital Integrated Coastal Development (NCICD) project – we then trace how these projects further consolidate urbanisation processes that support these economic and political relations. We show how contested transformations within the city are connected to the equally contested transformation of environments outside of Jakarta: the extraction of raw materials (sand and cement) required for new flood infrastructure projects (embankments and flood protection islands). Showing these connections not only provides support for our thesis that flood protection should be understood as part of wider and distinctly capitalist processes of socionatural transformation, but also allows arguing for the need to politically connect the evictions of urban riverside communities with what happens in villages in the District of Serang in the adjacent Province of Banten, or villages in the District of Pati, Central Java Province (Figure 6-1b).

Our analysis of processes of uneven urbanisation through flood infrastructures is anchored in and done from the perspective of five months of fieldwork in Bukit Duri, the informal urban poor settlement earmarked for eviction by the CRN project. The settlement is located on the riverbank of the Ciliwung River, on the opposite side of Kampung Pulo, the evicted settlement we referred to in the introduction. Both these settlements, according to our interlocutor in Bukit Duri, are located within the city's "golden triangle" of commercial development (Figure 6-1c). We selected this location as the start of our investigation because the urban-based activist movement (the Urban Poor Consortium, or UPC) is present here. UPC has been advocating for the rights of the urban poor for many decades. BB lived in Bukit Duri between February–April and July–September 2016, a time period when civil society resistance to flood infrastructure plans peaked, with evicted communities pursuing legal redress against government actions.³⁰ During his stay he engaged in extensive discussions with people living on the riverbank. He also visited other flood-prone neighbourhoods in Jakarta, and attended NGO and community meetings, protests, and court hearings about the evictions and infrastructure development plans, both at CRN and NCICD. Through his intimate connections with the

³⁰ In October 2017, after almost a year, Bukit Duri's people won their class action; the court ruled that DKI Jakarta Provincial Government should pay a compensation fee of 18.6 billion Indonesia's Rupiah (IDR), far below the claim of 1.07 trillion IDR. More on legal proceedings since 2016 can be found here: <http://megapolitan.kompas.com/read/2017/10/26/08554891/warga-bukit-duri-menang-anies-tegaskan-pemprov-tidak-banding>.

network of activists the first author could also participate in civil society meetings protesting sand mining in the adjacent district of Serang (28 April 2016). Our documentation of civil society resistance to cement mining in Pati relies primarily on news, legal documents, and discussions with activists.

6.3 DIALOGUE BETWEEN UNEVEN DEVELOPMENT AND THE POLITICAL ECOLOGY OF URBANISATION

In 2015, Angelo and Wachsmuth (2015: 21) criticised Urban Political Ecology (UPE) scholars' tendency to reduce the examination of injustice to a question of differences in "access to", to the neglect of an inquiry into "the production of" unevenness. This was also Harvey's (2012: xv) point when he analysed the movement of Lefebvre from the right to "the city" to the right to "the production of space". We propose a dialogue between Smith's (1984[2008]) theory of uneven development and PEU as a way to produce a much-needed cross-fertilisation of ideas on spatial inequalities. On the one hand, PEU usefully enriches Smith's analysis of urbanisation. On the other hand, Smith's identification of unevenness as happening through mutually implicated tendencies of differentiation and equalisation draws attention to the larger political-economic processes that produce geographical space.

According to Smith, differentiation happens through the differential categorisation of spaces in terms of their functionality to capitalist production. An extreme case of differentiation is that between town and countryside. Equalisation happens through the expression of spaces and people – natures, bodies – in comparable exchange-values, making them amenable for valuation and commodification (Smith, 1984[2008]). We use Smith's theoretical insights not to precisely tease out how capital and labour divisions are rooted in natural(ised) or technified similarities or differences, but as a strong reminder that the production of spaces through flood infrastructure happens within and as part of larger processes of capitalist development. It also helps understanding how urbanisation processes carry ramifications beyond the city, and in this way responds to contemporary critiques to "urban age theory", which identify the limits to understandings of the city as a bounded, fixed, and universally replicable type, and of urbanisation as a concentration of population within a certain spatial area (Brenner, 2014; Brenner and Schmid, 2014 and 2015).

The recent call for a PEU took these critiques of UPE as a starting point. Angelo and Wachsmuth (2015) went back to the early agenda of UPE to show that it originally aspired to both theorise the "socionatural moment" and the "Lefebvreian moment". In their opinion, UPE succeeded in the former, by adopting the "socionatural moment" as a useful way to rethink urbanisation as consisting of mutually constituted social and natural processes (Angelo and Wachsmuth, 2015). Swyngedouw (1996) famously used the

concept of “socionature” to understand the city as a socionatural hybrid. He argued that a city is a “socio- nature” in which the social and the natural are “inseparable, integral to each other” (Swyngedouw, 1996: 66). The “Lefebvrian moment”, or attempts to understand the urban as a “complex, multiscale and multidimensional process” (Keil [2013: 725], quoted in Angelo and Wachsmuth [2015: 20]) has been much less well theorised, according to Angelo and Wachsmuth. This, they claim, has resulted in a “methodological cityism”, with too much empirical and analytical attention being paid to what is supposedly contained within the city boundaries, to the neglect of the process of urbanisation. We sum up this theoretical rapprochement between UPE and uneven development as “uneven urbanisation”,³¹ using the term to analyse how the uneven socionatural transformations of urban and agrarian environments unfold through dialectical processes of differentiation and equalisation.

This theorisation, we maintain, usefully complements an emerging scholarly interest to understand flood prevention infrastructure as intrinsic to and productive of urban unevenness (Cousins, 2017; Meehan, 2014; Ranganathan, 2015; Saguin, 2017; Schramm, 2016). Geographers of urban floods and flood risks conceive of infrastructure both as the materialisation of unequal relations between elite and marginalised populations and as one of the mechanisms through which inequalities are reproduced. This builds on critical geographical scholarship of other types of city infrastructure (Graham and Marvin, 2001; Heynen, Kaika, Swyngedouw, 2006; Kooy and Bakker, 2008; Swyngedouw, 2004) which has helped foreground technological objects and networks as pivots of political inquiry (cf. Meehan, 2014). Partly on the waves of a heightened interest in risk and vulnerability in the context of global environmental change (Douglas, 2016; Schramm, 2016), urban geographers are also developing an interest in flood infrastructure, trying to explain how it produces “unequal risk” (Collins, 2010), “risky urban socionatures” (Ranganathan, 2015) or “hazardscapes” (Saguin, 2017) by socially and spatially reconfiguring flood risks and vulnerabilities, creating spaces of protection for specific people and purposes and simultaneously sacrificing or “destroying” other spaces and people.

In line with the observation of Angelo and Wachsmuth, the critical geographers’ analyses of floods and flood infrastructure also seem to invest more effort in theorising and empirically teasing out the “socionatural moment”, than in thinking through the “Lefebvrian moment”. Mobilising different conceptual vocabularies, the stories about flood management in Tijuana, Bangalore and Metro Manila (see, respectively, Meehan

³¹ Kipfer (2014:291) uses the term “uneven urbanization” in the context of rural/urban and North/South divide.

[2014]; Ranganathan [2015]; Saguin [2017]) all convincingly demonstrate how the social and the natural are ontologically inseparable, and use this to re-politicise urban flood management plans and infrastructures. The question of how to best theorise the power (Meehan, 2014) or agency (Ranganathan, 2015) of technologies (or “tools” as Meehan calls them) is a recurrent theme of this conversation, one that is energised by a desire to explore possibilities to do political work through more serious critical engagements with engineers and engineering.

We share and emphatically subscribe to this desire. Yet, our main aim in this article is not to provide further evidence of, or ways of unravelling, the politics of infrastructure. Rather, what we aim to do is to contribute to ways of thinking through the “Lefebvrian moment”, in two ways. First, we want to show how tracing flood infrastructural projects beyond their manifestation and effects within city boundaries is a useful way to respond to critiques of “methodological cityism”. Here, we are inspired by Saguin’s analysis of how safety in the city of Manila is produced through the creation of risk in the city’s hinterlands, most notably Laguna Lake. By following the water beyond the city, Saguin proposes a useful reading of the metabolic process of flood control as an exponent of the process of urbanisation (Saguin, 2017). We take Saguin’s proposal one step further, and argue that the relations between urban flood protection and uneven urbanisation do not just happen through flows of water, but are also produced by and productive of flows of capital, resources and labour. We also identify how the relations between flood protection and uneven urbanisation require differentiation within the city, as well as between the city and the hinterland.

Our second contribution to a theorisation of flood infrastructures as constitutive of uneven urbanisation stems from our desire to flesh out, rather than assume, the relationship between capitalism and flood management. In her analysis of flood drains in Bangalore, Ranganathan likewise attempts to understand flood- or flood-protection-induced productions of risk and vulnerability are related to and shaped by capitalism. She aptly uses the tensions between flow (“irrigation water, stormwater, sewage, capital”) and “fixity (social orders, state forms, intransigent discourses, settlements, solid waste)” as the “analytics through which to narrate the political ecology of flood risk”. She argues that “in the new millennium, flood risk is” produced through “an intensifying alignment between storm drains and the flow/ fixity of real estate capital”: “the dizzying flow of speculative and global real estate capital through Bangalore’s storm drains and the fixity of resulting informal developments in wetlands have rendered the flow of stormwater especially unpredictable and risky” (Ranganathan, 2015: 1301). As we show, a very similar story can be told for Jakarta. The dialectics of flow and fixity bring to mind and resonate with Smith’s tendencies of differentiation and equalisation that we use to narrate our story.

Our purpose, however, is slightly different from that of Ranganathan. We want to draw attention to how current projects to protect Jakarta from floods originate in as well as perpetuate New Order crony-capitalism: they are a vehicle for further cementing political and economic power by spurring processes of socionatural transformation that are founded on the contradiction between capital and labour.

6.4 UNEVEN URBANISATION: THE PRODUCTION OF FLOOD EVENTS AND THE DEVELOPMENT OF FLOOD INFRASTRUCTURES

We use the next three sub-sections of the paper to flesh out “the transformation of nature and the social relations inscribed therein” (Heynen, Kaika, Swyngedouw, 2006: 4). We do so by documenting the workings of specific economic and political networks of the New Order regime that continue to co-constitute Indonesia’s contemporary processes of socionatural transformation. In particular, we use specific connections between land conversion and the economic and political networks of New Order Regime to illustrate how historical processes of urbanisation have evolved in Jakarta’s floodplain. Using this to establish flood protection as an intrinsic part of Indonesia’s capitalism, we then focus on two contemporary examples of flood infrastructure development to empirically illustrate how flood protection and management co-produces uneven urbanisation.

6.4.1 The production of flood events: New Order urbanisation and flooding

From a hydrological perspective, there are three types of floods in Jakarta (NCICD Master Plan, 2014: 23). The first is river-flooding, which is caused by a high discharge of water from upstream catchment areas. River flooding was responsible for the city’s catastrophic flood event in February 2007. The second is coastal-flooding, resulting from the entrance of seawater from the Jakarta Bay into the city. This happens when sea-dikes are not strong or high enough, as was the case in the November 2007 flood event (NCICD Master Plan, 2014). The third type of flood is the result of insufficient storage to capture, store, or drain rainwater. These floods occur when water from heavy rains—referred to as *hujan lokal* (local rain)—surpasses the capacity of the drains, as was the case in the flood event of January 2013 (Deltares, 2013).

Although green areas are crucial to flood management in Jakarta the period of the New Order regime witnessed a substantial reduction of green areas in the city. Decreasing the absorption of river and rain water through reduction of green areas increased the vulnerability of the city to flooding. From 1985 to 1998, the green area in the city declined from 37.2% (24,140 ha) to 9.6%, and reduced further from 9.1% to 6.2% in 2003–2007 (Majalah Tempo, 2007b:106). This happened against explicit spatial planning regulations, with the protected forest area in the city gradually being replaced with commercial

development: malls, luxurious settlements, apartments, hospitals, international schools and factories (Majalah Tempo, 2007a:110; Rukmana, 2015). The loss of green space also increases rainfall run-off into the river, so that in 2007, 90% of the rain water within the city flowed directly into the river (Majalah Tempo, 2007a:110). Our interlocutor in Bukit Duri explained this to us by using the metaphor of a glass of water. In the 1970s, according to him, when a glass of water came from the sky, half of it would flow into the river and half of it would percolate into the ground. Nowadays, the whole glass of water flows into the river.

The economic and political relations shaping the production of Jakarta's contemporary landscape are linked to Indonesia's New Order political regime. Under the promise of securing the economic and political stability required for national development, the New Order regime, led by General Suharto, repressively controlled social, economic, and political life in Indonesia through military and police force (Robison, 2009; Robison and Hadiz, 2004) and built alliances both with foreign and local capitalists (Vu, 2010: 66). Many of its policy decisions directly benefited those connected to Suharto and his ever expanding circle of business associates, drawn from the country's ethnic elite and Chinese-Indonesian allies. The many intimate linkages between cultural, political and economic powers cemented into a system of "crony capitalism" (Kunio, 1990).

An iconic incidence of urban development by the notorious protagonist of the New Order regime, Ciputra, illustrates how the transformations of Jakarta's floodplain that co-constitute urbanisation can be characterised as crony-capitalism at work. Ciputra is the 22nd richest man in Indonesia today,³² closely linked to political elites through his relationship with Liem Sioe Liong (i.e. Sudono Salim), one of the Chinese-Indonesian conglomerates supported by and for Suharto.³³ Ciputra is behind the conversion of 831 hectares of forest area in northern Jakarta into the luxurious real estate and industrial estates of Pantai Indah Kapuk (PIK). The 1985–2005 Jakarta Spatial Plan designated this area as "protected forest area", earmarked as green city space, important for rainwater retention (Leaf, 2015; Majalah Tempo, 2007c: 108–109; Rukmana, 2015).

³² See GlobeAsia.com (2016) and Leaf (2015) for more on Ciputra's businesses and political relationships.

³³ When Suharto was the Commander of Army Diponegoro Division in Central Java, Sudono Salim became the main supplier for the Indonesian Army. When Suharto came to power in the 1960s, Sudono expanded his business into other sectors like food, cement, banking, while continuing to support Suharto (Borsuk and Chng, 2014; Robison, 2009: 271–322).

In 2008 the DKI Jakarta Province Governor (Fauzi Bowo), stated that removing buildings built within the city's protected green space was "impractical" (quoted in Rukmana [2015]). In a similar spirit, in 2016, the then DKI Jakarta Province Governor (Basuki Tjahaja Purnama) stated that all commercial buildings occupying areas that the Spatial Plan identifies as "green area" are considered legal (Kompas.com, 2016a). The statements of these two Governors can be traced back to 1999, when Sutiyoso, the Governor of that era, used the Jakarta Spatial Plan 2000–2010 as a formal mechanism to legalise Ciputra's conversion and development on protected green space (Majalah Tempo, 2007b:106).

This example illustrates the inseparability of the transformation of Jakarta's landscape and the New Order elite. In the next section, we trace how this relationship obtains continuity and durability in contemporary processes of urbanisation through flood infrastructure. We use two prominent flood infrastructure projects, CRN and NCICD, to make this argument.

6.4.2 The development of flood infrastructure: CRN to reduce river flooding

The selection of riverside settlements as crucial to prevent river flooding is explained by the Indonesian government as related to the gradual narrowing of the Ciliwung River, which flows along 117 km from a catchment area in the south of Jakarta called "*Puncak*" (*puncak* means "peak" or "top") and ends in Jakarta Bay (Figure 6-1a). In 2013, only 200 m³/s of water could safely flow through the Ciliwung River, even though it is supposed to allow for a flow of 570 m³/s (Kementerian Pekerjaan Umum/Ministry of Public Work, 2015). High sediment and waste load, together with building on the riverbank, explain the reduced flow rate of the river. The response of the CRN is to increase the flow capacity of the Ciliwung River (Kementerian Pekerjaan Umum, 2015: I-2, I-10) through a so-called "river normalisation" project. This project sets out to increase the width and depth of the river along a length of 22.1 km through dredging, installing sheet piles on the edges of the river body, constructing dikes, and the laying of concrete tracks between the river and settlements.

The narrowing of the Ciliwung River is interwoven with the socionatural transformations that happen through land conversion in *Puncak*. Forest Watch Indonesia (2012) documented the pace and scale of these conversions: from 2000 to 2009 the middle and upper sub-catchment of the Ciliwung River Basin lost approximately 5000 hectares of its forest cover, mostly to the construction of settlements and villas. In terms of basin hydrology, this significantly reduced the interception capacity of the forest canopy and floor, while also reducing the infiltration rate of water into the aquifer (Pawitan and Sunarti, 2013). The *Puncak* conversions also accelerated run-off. This was documented as early as in 1991 (Harto and Kondoh, 1998). They, finally, have intensified rock weathering, increasing the sediment load of the river. Models of the sediment flows by

Poerbandono, Julian, and Ward (2014) show that the mean annual sediment load of Ciliwung River increased from 179 to 186 to 351 tons in 1901, 1995 and 2005 respectively.

The political and economic relations of this transformation are not difficult to disentangle. Owners of the villas and country estates found throughout *Puncak* are members of the New Order elite. Indeed, to these wealthy urbanites, *Puncak* has become a highly desirable ‘escape’ from Jakarta. Those who own property here include, amongst others, Wiranto (who was from 1998 to 1999 the Indonesian armed forces commander-in-chief and from 2016 onwards the Coordinating Minister of Political, Legal and Security Affairs), Sutiyoso (1997–2007 Governor of DKI Jakarta), Oetoyo Oesman (1993–1998 Indonesian Minister of Justice), H.B.L. Mantiri (1992 Ninth regional military command [Kodam IX] Udayana commander) (Majalah Tempo, 2007d); Basofi Sudirman (1993–1998 East Java Province Governor), Radinal Mochtar (1998 Minister of Public Works), Ginandjar Kartasasmita (1993–1998 Minister of Mines and Energy), Djadja Suparman (1999–2000 Army Strategic Reserves Command) (Majalah Tempo, 2002); and Probosutedjo (Suharto’s step-brother) (Majalah Detik, 2013).

The inception of the CRN in 2015 was based on a differentiation of spaces through a very selective categorisation of their function for Jakarta’s flood management. Hence, the CRN solution marks eight low-income settlements for eviction (Kementerian Pekerjaan Umum, 2015), but does not question or touch the urbanisation process of *Puncak*, nor does it problematise the conversion of protected forest land in the city for commercial development. The processes of development seen here seem to reverse the order of differentiation identified by Smith. Where Smith (1984[2008]: 141) suggests that the “natural differentiation of the earth” will influence the “division of labour”; in the CRN it is the division of labour – or the social differentiation of the land owners – that lays at the basis of the differentiation of spaces, spaces that are simultaneously social and natural. The CRN project identified low-income riverbank settlements as a major cause of the river narrowing, targeting these for eviction while ignoring other contributing causes of the floods. The increased sediment loads, rainfall runoff, and the land use conversions responsible for decreasing the flow rate of the Ciliwung River were left unaddressed, protecting the weekend villas in *Puncak* owned by the political and economic elite.³⁴

The absence of any serious attempt to address upstream catchment issues contrasts with, and can only happen because of, the simultaneous sacrificing of other spaces in Jakarta, inhabited by those who do not belong to the elite. The 526 families (LBH-J, 2017) evicted

³⁴ A mere 200 buildings in the catchment area were removed in 2013 (Majalah Detik, 2013); in the year 2000 there was an estimated 30,000 villas (Kompas, 2000a).

from one neighbourhood of Bukit Duri on 27–28 September and 1 December 2016, representing only one of eight settlements targeted for eviction by the CRN project, provide a dramatic testimony of the effects of this. The eviction was made legally possible by nullifying the validity of existing land claims. Of the total 400 parcels of land, only 3.25% of the evicted residents in Bukit Duri held what are considered valid land certificates (MetrotvNews.com, 2016). Residents do hold a variety of claims and land rights,³⁵ but the vast majority of these were rendered invalid through the uniformisation of land rights and ownership which re-categorised land rights into either formal rights, or ‘state land’.

6.4.3 The development of flood infrastructure: NCICD to reduce coastal flooding

The coastal flood infrastructure for Jakarta is physically very different from the CRN: the NCICD addresses the problem of coastal flooding caused by land subsidence, rather than river flooding caused by channel narrowing. NCICD infrastructure consists of polders, pumps, and dikes, while the CRN consists of “natural” surface water channels. Where the CRN transformation involves making space for water, the NCICD makes space out of water, by creating new land in front of the coast of Jakarta to “offer Jakarta long-term protection against flooding from the sea and rivers in the coastal area, and at the same time facilitate socio-economic development” (NCICD Master Plan, 2014: 15). And yet, and as we show, the NCICD is produced by, and productive of, the same process of uneven urbanisation as the CRN.

The NCICD mega-project combines the construction of a giant sea wall with land reclamation for the creation of new islands in the Bay area protected by the sea wall. The creation of these islands (17 in total, namely A, B, C, ... Q; Figure VI-1e) was originally a separate development from the NCICD. The islands plan has its origins in the New Order Regime, going back to 1995 when Suharto issued a Presidential Decree Number 52 on Reclamation in Jakarta Bay. In 1997–1998, the Asian financial crisis put a halt to the project.

After coastal flooding hit the northern part of Jakarta in 2007, the Indonesian Government –with the help of the Netherlands – launched the Jakarta Coastal Defense Strategy

³⁵ The official system of land regulation, the Basic Agrarian Law 5/1960, recognises eight types of land rights, but only the right of ownership certificate (*sertipikat hak milik*) constitutes a formal ownership title. The other types of land rights (listed in Figure VI-1d) are requirements for the issuance of the right of ownership.

(Deltares et al., 2011). In 2013 this became the NCICD. In April 2016, Indonesia's President Joko Widodo announced the 17 islands reclamation project and NCICD would be merged (Kompas.com, 2016b). Following this announcement, a meeting was organised on 23 May 2017 by the Ministry of Coordinating Maritime Affairs at the Ministry's office to explore the possibility of cross-subsidising the development of NCICD from the revenues of the 17 islands.³⁶

In what follows, we zoom in on one specific case – that of PT Taman Harapan Indah (THI) – to illustrate how the specific features and direction of the socionatural transformations envisaged by NCICD were shaped by the New Order networks of crony capitalism. Like with CRN, this story starts by tracing the origins of the problem of land subsidence causing flooding in the first place. In the 1990s, PT THI developed Pantai Mutiara, a luxurious housing complex in North Jakarta built on reclaimed land and drawing groundwater from the contained aquifer (Rusdiyanto and Pratomo, 2007) to provide its residents through a private piped network. This location is the very site where land is subsiding at the highest rate, sinking almost a metre in depth over a 10-year period (December 1997– September 2007). Geoscientists consider excessive extraction of groundwater as a dominant cause of this land subsidence (Abidin et al., 2011: 1759), alongside increased building weight and soil compaction, but the relative contributions are contested amongst both scientists and decision makers, groups who are not unrelated. Tracing the social relations constitutive of this transformation, it may be no surprise to find a connection with the New Order. PT THI is a subsidiary of PT Dharmala Intiland (Kompas, 1995a and 1995b), owned by Suhargo Gondokusumo. Suhargo is a member of the Yayasan Prasetya Mulya (YPM) (Kompas, 1993), a foundation previously led by Sudono Salim, a top New Order crony (Aditjondro, 2006: 201–202; Borsuk and Chng, 2014: 240–247).

PT THI is also, not coincidentally, one of the companies vying for commercial land development opportunities through the NCICD's island reclamation plans – Island H, with the total area of 63 hectares (PT THI, 2015). In 2017, Tax Object Sales Value of land at Island H was IDR 25 million per square metre (News.detik.com, 2017). Against the investment costs of IDR 4–6 million per square metre (Finance.detik.com, 2014), this would mean a profit of around 20 million IDR (equals US\$1504 based on January 2018 currency) per square metre for the developer like PT THI.

Like with CRN, the sad irony is that the same people who caused the floods through the transformation of water–land dynamics are now the ones who will benefit most from new flood infrastructure projects. This group benefits from flood protection of their prior

³⁶ Field observation (23 May 2017).

properties and investments while also reaping the profits from new investments in flood infrastructure.

Meanwhile, and just as with CRN, the newly proposed plans for Jakarta Bay to develop both flood protection areas and spaces for real estate development for 1.5 million new residents are only possible through the clearing of existing uses and users. According to the People's Coalition for Fisheries Justice (KIARA),³⁷ the NCICD, the transformation of the existing fishing grounds into commercial real estate will negatively affect more than 50,000 fisherfolk. Floating fishing communities express concern that new fishing zones identified in the NCICD design, located at the far ends and outer areas of the sea wall, will expose small fishing crafts to much stronger currents and larger waves.³⁸

The creation of the islands and the construction of the sea wall also require the transformation of spaces far outside of Jakarta, much farther than the Bay, or the spatially contiguous area of the *Puncak*. This is because the enormous quantities of sand and cement required for construction have to be brought from afar. KIARA's activists estimate the reclamation of 17 islands requires 330 million m³ of filling material, whereas engineering documents specify that the giant sea wall requires up to 935 million m³ of sand (Valkenburg, 2014: 5). It here in the NCICD project that the 'socio-natural moment' explicitly meets the 'Lefebvrian moment': the creation of new flood protected spaces can only happen because of and through the transformation of other spaces from where the sand and cement are extracted.

As the Environment Impact Assessment of island H (PT THI, 2015: I-20) confirms, sand would be mined from the coastal area around Serang (approximately three hours by car from Jakarta), in the nearby Province of Banten, whereas the rapid expansion of cement production in response to demand from NCICD happens largely in the District of Pati in Central Java. Fishermen in Serang are protesting the loss of fishery resources, while the environmental impacts from sand mining are covered widely by Indonesia's mass media (Kompas.com, 2016c; Rappler.com, 2016). In one meeting attended in Serang (28 April 2016) residents who fish in the estuarine area reported rapid abrasion of the beach and

³⁷ Presentation by General Secretary of KIARA in public discussion for a documentary screening of *Rayuan Pulau Palsu/The Fake Islands* at the University of Paramadina, Jakarta, 8 June 2016.

³⁸ Field observation at Save Jakarta Bay Coalition's meeting (28 April 2016). SJBC is a coalition against the NCICD project. Members of the Coalition, in October 2016, are: Indonesian Traditional Fishermen Association (KNTI), Muara Angke Traditional Fishermen Association (KNT Muara Angke), Fish-Processing Fishermen Community (PNPI) of Muara Angke, Jakarta Legal Aid Institute (LBH-J), Women's Solidarity (SP), The Indonesian Centre for Environmental Law (ICEL), The Indonesian Forum for the Environment (WALHI), KIARA, Dompot Dhuafa Legal Aid Centre (PBH DD), Indonesian Legal Aid Foundation (YLBHI), and a students organisation from the University of Indonesia.

changes in the sea currents, identifying these changes as the impacts of sand extraction. Residents claimed this had affected 1500 hectares of beach, and 500 hectares of fishpond.

In Pati District (500 km from Jakarta), residents are voicing similar concerns over the uneven impacts of environmental transformation, this time in relation to cement production by PT Indocement Tungal Prakarsa (PT ITP). In the annual report to its shareholders, this company clearly suggests a direct causal link between its proposed mining activities for cement production in Central Java and the new market for these materials created by the NCICD infrastructure project (Indocement, 2014: 11). The existence and involvement of PT ITP is yet another illustration of crony capitalism at work. The company was established in 1975 by Sudono Salim and when Suharto was in power he provided financial protection to Salim's Group, the main holding company of Sudono Salim business. After the end of the oil boom in the 1980s, the Indonesian economy declined, currency was devalued, and many companies suffered a high level of foreign debt during the crisis. PT ITP nevertheless survived: in 1985 it was rescued through an Indonesian government bailout of US\$325 million, with the government buying 35% of the company's share. In 2001, the Salim Group decided to sell 51% of its share in PT ITP to a German-based cement company, Heidelberg Cement Group (Dieleman, 2007: 54, 108). However, through its subsidiary of PT Mekar Perkasa (Nasional.kontan.co.id, 2016), the Salim Group still holds 13.03% of its share in PT ITP (Indocement, 2014). In 2016, Anthoni Salim, Sudono's son, was the second richest person in Indonesia (GlobeAsia.com, 2016).

The resistance to cement mining by Pati farmers is well known within social movement networks in Indonesia. In 2017, one farmer from Pati (Gunarti) was supported by German-based activists to lead a series of rallies throughout Germany to pressure the Heidelberg Cement Group to stop investments in Central Java.³⁹ Farmers also filed a lawsuit against the company's Environmental Permit to engage in cement mining. This permit was issued in December 2014 by the Head of Pati District issued to PT Sahabat Mulia Sakti (SMS), a company of which 99.99% of the shares are owned by PT ITP. The permit was issued to develop a cement factory, to mine limestone and clay (as these materials are needed for cement) on a total of 2843 hectares of land. In March 2015 farmers legally protested against the issuing of this permit in the Semarang State Administrative Court and they won the case. Indeed, the farmers' complaint was based on a convincing identification of the many negative impacts. They predicted that their rice fields would be without water irrigation, as this water comes from karstic area that would be mined. They also predicted that ash from the cement factory would cause air pollution,

³⁹ Discussions with German-based activists in Berlin and Bremen (21 and 22 March 2017; see also dw.com, 2017).

and that the blasting activities associated with mining would cause damage to their houses. In February 2016, the company filed an appeal to the Semarang State Court decision with the Surabaya State Administrative High Court. It won. In September 2016, the farmers filed a cassation with the Supreme Court, which they lost in March 2017. One of the main reasons was the assessment of the judge that the proposed mining area did not overlap with the karstic area. This is a disputed assessment. In 2005, Indonesia's Ministry of Mining issued a Ministerial Decree that stated that the disputed area is a part of karst conservation zone. In Indonesia, karst areas are classified into three types based on their water storing capability, namely type I, II and III. Mining activities are only forbidden in type I karst systems, the ones that store most water. In 2008, the Governor of Central Java issued a Regulation stating that the disputed area is karst type II, thereby clearing the way for mining activities. The Judge in Supreme Court followed the logic of the Governor's Regulation.⁴⁰

6.5 CONCLUSION: EMANCIPATORY PROMISE OF UNEVEN URBANISATION

While subscribing to a conceptualisation of Jakarta's flood events, floodplains, and flood infrastructures as socionatural, "embodying and mediating nature and society" (Swyngedouw, 1996: 66), in this article we have used flood protection in Jakarta not to further theorise the 'socionatural moment' of UPE or the politics of infrastructure. Instead, we have used flood infrastructure as a methodological device to think through the 'Lefebvrian moment' of UPE, proposing a reading of floods as deeply constitutive of wider processes of uneven urbanisation. Following Smith, we have theorised these processes as shaped by capitalism through mutually implicated tendencies of socionatural differentiation and equalisation premised on the contradiction between labour and capital. Waters, resources and labour are rendered similar across places to produce different spaces and people both within and beyond city boundaries.

We have discussed two specific flood protection projects to narrate our story and substantiate our argument: CRN, a river flood infrastructure project, and NCICD, a coastal flood infrastructure project. In both projects, the causes of the floods against which Jakarta now needs to be protected can be traced to the speculative or recreational buildings of the very investors who will benefit most from the new flood protection infrastructures. Many of them belong or are closely connected to and protected by a circle of economic and political elites that has its origins in Suharto's New Order Regime (Hadiz and Robison, 2013). Those belonging to Chinese-Indonesian conglomerates now even

⁴⁰ Information is summarised from a Supreme Court decision (Mahkamah Agung 2017), and discussion with Mokh Sobirin (15 January 2018), Director of Desantara Foundation, an NGO working in Pati.

assume a stronger position, as they loosen the ties with their former patrons (politico-bureaucrats led by Suharto) to themselves become patrons of politicians (Chua, 2008). As noted by Warburton (2016), the “New Developmentalism” that is happening in (post-) New Order Indonesia is not very different from the old “Developmentalism” of Suharto’s New Order (Heryanto, 1988).

We have shown that floods and flood infrastructure are instrumental in cementing this stabilisation. Positive spirals of capital accumulation that happen through the production of some spaces as safe and protected from floods and that are therefore made attractive to further investment occur alongside and are dialectically connected to negative spirals of impoverishment and vulnerability in those spaces that become earmarked as conduits for water, or from which resources for constructing flood protection projects are extracted. These latter spaces include the settlements of fishermen in the Jakarta Bay that are now transformed into sites of urban agglomeration. They also include the riverside settlements of Kampung Pulo and Bukit Duri, which bring together many people who recently migrated to Jakarta, sometimes because they lost the resources on which they depended for their livelihoods. Ironically, similar infrastructure development projects for which they now have to make space in the city continue to chase their former neighbours in the countryside to Jakarta: the sand and cement needed for NCICD is extracted from such rural places. Tracing such linkages clearly shows how urbanisation is a very uneven process, that it is dictated by capitalism and that extends far beyond the city.

Smith’s (1984[2008]) *Uneven Development* did not explicitly seek to identify possibilities of political mobilisation, and neither do Angelo and Wachsmuth (2015). “Smith’s account”, as Ekers and Prudham (2017: 3) observed, “downplays the role of political struggle and contestation in actively constituting the specific trajectory of socioenvironmental change”. Our analysis of uneven urbanisation through flood protection has yielded two potential promising entry points for political struggle against processes of capitalist development, however encompassing they may seem. The first lies in meticulously re-politicising natural or technical flood protection plans, by identifying how they use equalisation (of waters, resources, people) to produce very different spaces and people. The second lies in tracing the connections between urban and rural civil society movements agitating against the unevenness of these transformations. For Indonesia, this latter point is particularly important, given how until recently civil society movements are separated quite sharply between urban and rural constituencies: environmental (in)justice issues are seen as different, strategies also differ, resulting in relatively separate practices of resistance. The framework of uneven urbanisation allows showing how they are connected, which holds the “emancipatory promise” (Arboleda, 2015: 9) of building alliances between grassroots, civil society collectives as dispersed as those in urban poor settlements like Kampung Pulo and Bukit Duri, fisherfolk associations in Banten and Jakarta Bay, and agricultural associations in Pati. Some of

these alliances are already in the making, as SJBC for instance included sand mining extraction in Serang into their complaint (Save Jakarta Bay Coalition, 2016). The strengthening of movements through alliances is much needed, since what is in demand in Jakarta – and Indonesia more broadly – is not more flood infrastructural management but rather a social movement to confront the uneven urbanisation.

7

COLLECTIVE ACTIONS

The starting point of this thesis was my personal motivation to make a difference and support transformational change from within. Hence, I critically engaged with the political ecology of urbanization as it provides a useful framework to re-politicize what tends to be conceived as ‘environmental’, ‘natural’ or ‘technical’. I also ‘ecologized’ dialectical methods to appreciate possibilities and to acknowledge how processes of urbanization are also shaped by ecological dynamics – those that cannot be fully explained by referring to societal or human logics. I developed and experimented with fieldwork methods to operationalize these theorizations. I used my questions, explanatory framework, methods and fieldwork strategies to produce a new understanding of the relation between uneven urbanization and Jakarta’s floods under the (post-) New Order regime. Inspired by the many lively and ongoing discussions among urbanization scholars, I fleshed out a political ecology of urbanization that helps trace and understand how unevenness is produced through overlapping and co-constitutive relations of sociospatial reconfiguration and socionatural transformation.

Using the explanatory framework of the political ecology of urbanization, Chapter 3 situated how Indonesian capitalism unfolds through large-scale land claims and allocation by the state as a ‘concessionary capitalism’. From this analysis I identify how the presence of Jakarta’s urban poor in precarious urban spaces are part of an ‘extended agrarian question’, as processes from the countryside extend into the city. I identify how Jakarta’s urban poor were expelled from the countryside, joining the flows of rural-to-urban migration to occupy flood-prone river banks in the city. In Chapter 4, I go further to

connect the unevenness in the city (evictions) with the countryside (land dispossessions). Methodologically I do this through following the migration of residents, and analyze sociospatial and socionatural processes shaping these rural/urban trajectories. In Chapter 5 I trace how land subsidence in Jakarta is the outcome of uneven sociospatial and socionatural processes of capitalist urbanization. Finally, in Chapter 6 I analyze the sources of cement and sand for flood infrastructure development in Jakarta to identify connections between the flows of water and flows of labour and capital.

In this concluding chapter I summarize the co-constitutive relations of the mutually intertwined sociospatial and socionatural moments in (post-) New Order urbanization and how they are productive of unevenness explained in Chapter 3 – 6 (Table 7-1). From this summary I outline the political consequences following from my understanding of Jakarta's flooding, and I identify possibilities for political alternatives.

Table 7-1: The co-constitutive relations of sociospatial and socionatural moments and the uneven outcomes (made by author).

Chapter	Sociospatial moment	Socionatural moment	Unevenness in terms of ...
3	<ul style="list-style-type: none"> • Primitive accumulation through land concession since colonial era • Rural-to-urban migration • Explosion and eviction of <i>KMK</i> 	<ul style="list-style-type: none"> • Land and labour as constitutive part of capital 	<ul style="list-style-type: none"> • Access to land • Access to formal jobs • Impact of government policy (eviction of the urban poor)
4	<ul style="list-style-type: none"> • Land dispossessed through political forest and political water • City expansion 	<ul style="list-style-type: none"> • Interdependency of human and non-human (farming land, surface and groundwater) 	<ul style="list-style-type: none"> • Access to land, fertile farming soil, and water in rural area • Flood risk in rural area • Prevention from flooding in urban area and the blaming the poor for flood infrastructure intervention • Relations between the city and the countryside

Chapter	Sociospatial moment	Socionatural moment	Unevenness in terms of ...
5	<ul style="list-style-type: none"> • City's growth • Groundwater deep wells • Land subsidence 	<ul style="list-style-type: none"> • Interdependency of groundwater and human 	<ul style="list-style-type: none"> • Access to land (big developers converted green and blue areas; big developer and concessionary holders will gain surplus from the development of new capital; indigenous community will be evicted) • Access to water (urban poor settlements extract shallow contaminated groundwater; commercial sectors and the elites extract cleaner deep groundwater) • Flood risk (it is the urban poor who suffer the most from the impact of tidal flooding caused by land subsidence)
6	<ul style="list-style-type: none"> • Deforestation in <i>Puncak</i> (upland) • Land reclamation at the Jakarta Bay • Sand and cement mining in Banten and Central Java 	<ul style="list-style-type: none"> • Entanglement of human and non-human (farming land, estuarine and karst ecosystem) 	<ul style="list-style-type: none"> • Access to land in <i>Puncak</i> (elites maintained their lands and villas) and the city (development of commercial areas are protected and even promoted) • The impact of flooding (premium space are prevented from urban flooding; urban poor settlements are blamed/evicted; the urban poor settlements are more prone to flood risk) • Surplus (developers gained substantial profit from development of the city and flood infrastructure)

Chapter	Sociospatial moment	Socionatural moment	Unevenness in terms of ...
			<ul style="list-style-type: none"> • Risk (fisher folk in Jakarta Bay will face bigger wave for their fishing activities) • Access to water (will decrease in rural Central Java, Jakarta Bay will be closed; estuarine area for the fish pond are eroded in Serang).

How do I see the political consequences of this thesis in relation to (post-) New Order uneven urbanization and Jakarta's floodings? The legacy of the New Order regime has been the subject of scientific inquiries. These have exposed corruption and the exercise of repressive force to critical views (Aspinall and Fealy, 2010), and note the poor economic condition, a tradition of violence, and the ever further politicization of religion (Heryanto, 2004). Studies also point to the breaking down of the left movement due to the massacre in 1965-6 – which helps explain the absence of the left in the present-day Indonesia's political panorama – and document the resurgence and reorganization of the oligarchical power incubated under the New Order regime (Heryanto and Hadiz, 2006; Hadiz and Robison, 2013; Hadiz and Robison, 2017; Savitri and Adriyanti, 2018). In addition, studies attribute massive agrarian or land-based conflicts in today's Indonesia to the New Order regime (example: Rachman, 2013).

On the basis of my thesis, I would like to complement and expand this list by showing how the New Order legacy has become cemented into the landscape of both the non-city (example: Kedungwringin) and the city (Jakarta). In the non-city, political forest and political water – the state-supported appropriation of land, forest and water for profit-making purposes – keep producing unevenness. In the city, the New Order legacy shows in how upland catchments, rivers and water front areas have been encroached by luxury real estate, causing land subsidence and increasing the city's vulnerability to flooding.

As I contribute to this scholarship on the legacy of the New Order, to explain the contemporary city, the final question I ask myself is then, what is to be done? How can these processes of urbanization be made more even, and more just for both the city and the countryside? I identify the overthrow of Suharto from power by the *Reformasi Movement* as a good starting point to answer this question.

The strength of the *Reformasi Movement* was its ability to organize protests that brought together groups from various ideological backgrounds. The overthrow of Suharto from

power marked or symbolized the success of *Reformasi Movement*. Yet, replacing Suharto was not the only point on the agenda of the *Reformasi Movement* in 1998. The People's Democratic Union (*Persatuan Rakyat Demokratik*) which later on transformed into the People's Democratic Party (*Partai Rakyat Demokratik/PRD*) – the hard core of the opposition against Suharto's – for instance also demanded the abolition of army's dual function. The army has a military role, but also was active socio-politically. A clear manifestation of the latter is the right of members of the army to be chosen by the president as governors. The PRD also demanded lower prices, the repeal of five political laws, increased wages for labour, and a referendum for East Timor people (Miftahuddin, 2002).

The *Reformasi Movement* successfully intervened in Indonesia's politics, with many of PRD's demands being met: the overthrowing of Suharto from power; the abolition of the dual function of the army; and the independence of East Timor. When measured against their own agenda, in this case the demands by the PRD, the *Reformasi Movement* was successful. However, replacing Suharto is different from eliminating uneven development under capitalism. Without a clear and straight-forward critique to the capitalist mode of production, it becomes difficult to see capitalist uneven development and urbanization as common enemies. The effect is that unevenness persists, both in/through rural land dispossession, urban eviction, and urbanization (development of flood infrastructure for example). How to more explicitly frame and explain the battle against unevenness as connected to a critique of capitalist development, then, is the wider question that this concluding chapter would like to deal with.

Indeed, the question then becomes how to deal with the uneven capitalist development. Can I, now, have a life beyond capitalism? Timothy Mitchell's (2002: 303) metaphor is my favourite vehicle to think through this, as he explains how capitalism sits in human "bodies and minds", just like *Plasmodium falciparum*. Once you are infected, it is almost impossible to get rid of it. While typing this concluding chapter, I am fully infected by capitalism – my laptop and font in this text are part of, and even my brain is supported by nutrients I gain from the commodity chain of, a capitalist mode of production.

Searching for alternatives to capitalism, I have been involved with a small collective of *Serikat Tani Kota Semarang* (Semarang City Farmers Collective/STKS) in 2020. I worked with this collective following my move to Semarang, the capital of Central Java Province, in early 2019, as I worked part time as a researcher at the University of Amsterdam in an urban groundwater governance research project – the *Ground Up* project – and finished this thesis. The initiation of the STKS was motivated by the COVID-19 crises, particularly urban food insecurity. STKS was a collective initiative of Semarang citizens who gathered to grow food and protect water: planting in or occupying the ruined or unused spaces/lands (Padawangi, 2020), as well as conserving springs and small pools at the upland-suburb of Semarang city.

In relation to my search for alternatives to capitalism, STKS's initiatives carry two meanings. First, STKS's initiatives reconfigured the space of the suburban landscape. Urban wastelands and brownfields are a capitalist commodity. Even if land in or around the city is abandoned and/or degraded, it is still owned by someone or by the state. Those lands are there to be sold, bought, or planted/built on. STKS's initiatives planted on the abandoned and degraded land, and distributed the harvests to its members or other people "according to each needs" (*sesuai kebutuhan masing-masing*) (Batubara and Handriana, 2021a: 43) without a need to pay. This distribution scheme worked beyond the market scheme dictated by capitalist exchange-value, as it was organized under the scheme of use-value. STKS's initiatives of urban farming produced non-commodity food (non-capitalistic) products out of commodified (capitalistic) land. The distribution of the harvest produced by STKS operated beyond the capitalist mode of production founded on the uneven/exploitative relations of labour by capitalist and the unevenness of market exchange looking for profit. Second, the conservation of natural springs and pools by STKS helped to store rain water in the upland area of the city, so contributing to the flood management of the lowland part or of the city as a whole. Here, STKS's practices of conservation transformed the society-nature relation by conserving the function of springs and pools – reconfiguring the function of abandoned and/or degraded urban spaces.

STKS's initiative was certainly small in terms of the city's overall food needs, and the harvest was unable to fulfil all of the food needs of its activists. Practices of water conservation of STKS were also too small to have a significant impact on the hydrological cycle over and/or below the city of Semarang. In total, in 2020, STKS and its network in and beyond Semarang planted less than half of hectare (STKS internal document, unpublished); the city of Semarang occupies 373,700 hectares (BPS Kota Semarang, 2020a: 5). STKS's small initiatives operated within the much larger capitalized urban landscape, and the actions of the coalition were perhaps less than a ripple in the capitalist ocean ("*hanya remah dalam celah-celah kapitalisme*" [Batubara and Handriana, 2021a: 44]). However, while small in terms of its food supply and hydrological significance, STKS members meet weekly to discuss routes to political change, and through this designed a proposal for how to advance direct democracy (STKS, 2021). In this proposal, the state is considered as an obstacle to direct democracy and is to be replaced with municipal organizations (*Majelis/Dewan Rakyat*) which further on are aggregated in a confederation of municipalities. The proposal is designed according to the principle of direct democracy, so that the higher the order of the regulatory framework, the less power it possesses. For example, the confederation of municipal organizations is not given much authority to make strategic decisions, but is there rather to administrate strategic issues already decided at the level of the municipality.

Reading the actions and ideas of STKS through the lens of my thesis, I see merit and hope in how this proposal for direct democracy could change the allocation of power to the central (*pusat*), and regional (provincial/*provinsi* and district/*kabupaten*) government and

their apparatuses, the (post-) New Order capitalist state, as well as the oligarchical groups using the state as a vehicle for their own interests. The proposal for direct democracy generated from the small activist circle of STKS resonates with other ideas for direct democracy now discussed in many cities in Indonesia, including Semarang itself (Semarang Melawan/SM, 2020), Jakarta (Talan et al., 2020), and Yogyakarta (Aliansi Rakyat Bergerak/ARB, 2020).

The imagination of alternatives to the current political system – and organization of life – in the form of direct democracy is of course just a beginning and there is no clear or easy pathway to change the Indonesia's politics. As I have shown in this thesis, the movement of capitalism progressing into the opposite direction of promoting spatial concentration, wealth centralization, and capital accumulation. This type of development will further widen the unevenness, expanding the differences between the have and have not, between capital reproduction and social and ecological reproduction, between human and non-human, between the city and the non-city, and deepens the uneven urbanization of capitalist development. My task in this thesis has been to make sense my own life and to unravel the uneven processes of urbanization in its relation to Jakarta's flooding – to connect the more-than-human and more-than-city, all the survivors of uneven urbanization – and to scientifically open more possibilities for changes the system from within. The rest – if you agree with my explanation throughout this thesis – of what is to be done, are ours collectively to work out. I echo David Harvey (2001: 203) when he discussed action for change, "No one can go it alone".

REFERENCES

- Abeyasekera, S. (1989). *Jakarta: A History*. Singapore: Oxford University Press.
- Abidin, H.Z., Andreas, H., Djaja, R., Darmawan, D. and Gamal, M. (2008). Land Subsidence Characteristics of Jakarta between 1997 and 2005, as Estimated Using GPS Survey. *GPS Solut*, 12: 23-32.
- Abidin, H.Z., Andreas, H., Gumilar, I. and Wibowo, R.R. (2015). On Correlation between Urban Development, Land Subsidence and Flooding Phenomena in Jakarta. *Proc. IAHS*, 370: 15-20.
- Abidin, H.Z., Andreas, H., Gumilar, I., Fukuda, Y., Pohan, Y.E. and Deguchi, T. (2011). Land Subsidence of Jakarta (Indonesia) and its Relation with Urban Development. *Nat Hazards*, 59: 1753-1771.
- Abidin, H.Z., Djaja, R., Darmawan, D., Hadi, S., Akba, A., Rajiyowiryo, H., Sudibyo, Y., Meilano, I., Kasuma, M.A., Kahar, J. and Subarya, C. (2001). Land Subsidence of Jakarta (Indonesia) and its Geodetic Monitoring System. *Natural Hazards*, 23: 365-387.
- Aditjondro, G.J. (1993). *The Media as Development 'Textbook': A Case Study on Information Distortion in the Debate about the Social Impact on an Indonesian Dam*. PhD dissertation, Cornell University.
- Aditjondro, G.J. (1998). Large Dam Victims and Their Defenders: The Emergence of Anti- dam Movement in Indonesia. In Philip Hirsch and Carol Warren (eds.) *The Politics of Environment in Southeast Asia*. New York: Routledge, pp. 29–54.
- Aditjondro, G.J. (2003). *Korban-Korban Pembangunan*. Yogyakarta: Pustaka Pelajar.
- Aditjondro, G.J. (2003a). *Pola-Pola Gerakan Lingkungan*. Yogyakarta: Pustaka Pelajar.
- Aditjondro, G.J. (2006). *Korupsi Kepresidenan Reproduksi Oligarki Berkaki Tiga: Istana, Tangsi, dan Partai Penguasa*. Yogyakarta: LKiS.
- Ahmady, I., Elmy, T., Kuswardono, T., Khalid, K., Nusantara, B.C., and Santoso, V. (2010). *Java Collapse: Dari Kerja Paksa Hingga Lumpur Lapindo*. Yogyakarta: Insist Press.
- Aidit, D.N. (1964). *Kaum Tani Mengganjang Setan2 Desa*. Djakarta: Jajasan "Pembaruan".
- Akmalah, E. and Grigg, N.S. (2011). Jakarta Flooding: Systems Study of Socio-technical Forces. *Water International*, 36 (6): 733-747.

- Amin, S. (1976). *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism*. Sussex: The Harvester Press Limited.
- Amrta Institute. (2017). *Jogja Darurat Air: Laporan Hari Air Sedunia 2017*. Semarang: Amrta Institute.
- Angelo, H. and Goh, K. (2021). Out in Space: Difference and Abstraction in Planetary Urbanization. *Int. J. Urban Reg. Res.*, 45(4): 732-744.
- Angelo, H. and Wachsmuth, D. (2015). Urbanizing Urban Political Ecology: A Critique of Methodological Cityism. *International Journal of Urban and Regional Research*, 39(1): 16–27.
- Araghi, F. (2000). The Great Global Enclosure of Our Times: Peasants and the Agrarian Questions at the End of the Twentieth Century. In F. Magdoff, Foster, J. B. and Buttel, F. H. (eds.) *The Agribusiness Threat to Farmers, Food, and the Environment*. New York: Monthly Review Press, pp. 145-160.
- Araghi, F. A. (1995). Global Depeasantization, 1945-1990. *The Sociological Quarterly*, 36(2): 337-368.
- ARB. (2020). *#MosiTidakPercaya: Turunkan Rezom Jokowi-Ma'ruf, Cabut UU Cipta Kerja, Bubarkan DPR, dan Bangun Dewan Rakyat* (press release). Yogyakarta: ARB.
- Arboleda, M. (2015). Spaces of Extraction, Metropolitan Explosions: Planetary Urbanization and the Commodity Boom in Latin America. *International Journal of Urban and Regional Research*, 40(1): 96–112.
- Arboleda, M. (2016). In the Nature of the Non-city: Expanded Infrastructural Networks and the Political Ecology of Planetary Urbanisation. *Antipode*, 48: 233– 251.
- AS (Agrarian South: Journal of Political Economy). (2012). The Agrarian Question: Past, Present and Future. *Agrarian South: Journal of Political Economy*, 1(1): 1–10.
- Ascher, W. (1998). From Oil to Timber: The Political Economy of Off-Budget Development Financing in Indonesia. *Indonesia*, 65: 37–61.
- Aspinall, E. (2005). *Opposing Suharto: Compromise, Resistance, and Regime Change in Indonesia*. Stanford, California: Stanford University Press.
- Aspinall, E. and Fealy, G. (2010). Introduction: Suharto's New Order and its Legacy. In Aspinall E and Fealy G (eds.) *Soeharto's New Order and its Legacy*. Canberra: The Australian National University, pp. 1-16.
- Azuma, Y. (2000). Socioeconomic Changes Among Beca Drivers in Jakarta, 1988–98. *Labour and Management in Development Journal*, 1(6): 1–31.

- Bachriadi, D. and Lucas, A. (2001). *Merampas Tanah Rakyat: Kasus Tapos dan Cimacan*. Jakarta: KPG.
- Bachriadi, D. and Wiradi, G. (2011). *Six Decades of Inequality: Land Tenure Problems in Indonesia*. Bandung: Agrarian Resource Centre (ARC), Binda Desa, and Konsorsium Pembaruan Agraria.
- Bachriadi, D. and Wiradi, G. (2013). Land Concentration and Land Reform in Indonesia. In Anton Lucas and Carrol Warren (eds.) *Land for the People: The State and Agrarian Conflict in Indonesia*. Ohio: Ohio University Press, pp. 42–92.
- Bakker, K. (2012). Water: Political, Biopolitical, Material. *Social Studies of Science*, 42(4): 616-623.
- Bakker, M., Kishimoto, S. and Nooy, C. (2017). *Social Justice at Bay: The Dutch Role in Jakarta's Coastal Defence and Land Reclamation Project*. Both Ends, Somo and TNI.
- Bappenas. (2021). *Buku Saku Pemindahan Ibu Kota Negara*. Jakarta: Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional Republik Indonesia.
- Barr, C.M. (1998). Bob Hasan, the Rise of Apkindo, and the Shifting Dynamics of Control in Indonesia's Timber Sector. *Indonesia*, 65: 1–36.
- Batubara, B. (2019). Krisis, Ketidakadilan, dan Keadilan Sosial-Ekologis. *Prisma*, 38(3): 66-84.
- Batubara, B. (2021). Swyngedouw's Puzzle: Surplus-value Production in Socionature. *Human Geography*, 14(2): 292–295.
- Batubara, B. and Handriana, E. (2021). Urbanisasi Sebagai Pabrik Krisis Sosial-ekologis: Berdialektika dengan *Prisma* 1971-2021. *Prisma*, 40(4): 49-68.
- Batubara, B. and Handriana, E. (2021a). Dari krisis sosial-ekologis ke ekologi sosial: Kasus Semarang suburbia. *Prisma*, 40(3): 30-46.
- Batubara, B. and Rachman, N.F. (accepted) Extended agrarian question in concessionary capitalism: the Jakarta's Kaum Miskin Kota. *Agrarian South: Journal of Political Economy*.
- Batubara, B., Kooy, M., van Leynseele, Y., Zwarteveen, M., and Ujianto, A. 2022. Urbanization in (post-) New Order Indonesia: connecting unevenness in the city with that in the countryside. *Journal of Peasant Studies*. <https://www.tandfonline.com/doi/full/10.1080/03066150.2021.2000399>

- Batubara, B., Kooy, M., Zwarteveen, M.: Uneven Urbanisation: Connecting Flows of Water to Flows of Labour and Capital Through Jakarta's Flood Infrastructure. *Antipode*, 50(5): 1186-1205, 2018.
- Bernstein, H. (2010). *Class Dynamics of Agrarian Change*. Halifax: Fernwood and Kumarian Press.
- Bernstein, H. (2006). Is there an Agrarian Question in the 21st Century? *Canadian Journal of Development Studies/Revue canadienne d'études du développement*, 27(4): 449-460.
- Bhalla, S. (2017). From 'Relative Surplus Population' and 'Dual Labour Markets' to 'Informal' and 'Formal' Employment and Enterprises: Insights About Causation and Consequences. *Agrarian South: Journal of Political Economy*, 6(3): 295–305.
- Blackburn, S. (2012). *Jakarta: Sejarah 400 Tahun*. Jakarta: Masup Jakarta.
- Blaikie, P. (1985). *The Political Economy of Soil Erosion in Developing Countries*. New York: Longman.
- Blaikie, P. and Brookfield, H. (1987). *Land Degradation and Society*. London: Methuen & Co. Ltd.
- Bookchin, M. (1996). *The Philosophy of Social Ecology: Essays on Dialectical Naturalism*. Montreal: Black Rose Books.
- Boomgard, P. (1992). Forest Management and Exploitation in Colonial Java, 1677-1897. *Forest & Conservation History*, 36(1): 4-14.
- Borras Jr., S.M., Edelman, M. and Kay, C. (2008). Transnational Agrarian Movements: Origins and Politics, Campaigns and Impact. *Journal of Agrarian Change*, 8(2–3): 169-204.
- Borst, L. (2014). *Master Plan National Capital Integrated Coastal Development: Ground Water and Subsidence*. Coordinating Ministry of Economic Affairs, Special Capital Region of Jakarta, National Development Planning Agency, Ministry of Public Works, and Government of the Netherlands.
- Borsuk, R. and Chng, N. (2014). *Liem Sioe Liong's Salim Group: The Business Pillar of Suharto's Indonesia*. Singapore: ISEAS-Yusof Ishak Institute.
- BPS (Biro Pusat Statistik). (2014). *Statistik politik 2014*. Retrieved from <http://www.bps.go.id/index.php/publikasi/925>.
- BPS (Biro Pusat Statistik). (2021). *Jumlah Penduduk Provinsi DKI Jakarta Menurut Kelompok Umur dan Jenis Kelamin 2018–2019*. Accessed 14 February 2021. <https://jakarta.bps.go.id/indicator/12/111/1/jumlah-penduduk-provinsi-dki-jakarta-menurut-kelompok-umur-dan-jenis-kelamin.html>.

- BPS Kota Semarang. (2020a). *Kota Semarang dalam Angka*. Semarang: BPS.
- BPS. (2014). *Statistik politik 2014*. Retrieved from <http://www.bps.go.id/index.php/publikasi/925>.
- BPS. (2020). *Berita Resmi Statistik: Hasil Sensus Penduduk Provinsi Jakarta 2020*. Jakarta: BPS.
- BPS. (2021). *Jumlah Penduduk Provinsi DKI Jakarta Menurut Kelompok Umur dan Jenis Kelamin 2018–2019*. Accessed 14 February 2021. <https://jakarta.bps.go.id/indicator/12/111/1/jumlah-penduduk-provinsi-dki-jakarta-menurut-kelompok-umur-dan-jenis-kelamin.html>.
- Breman, J. and Wiradi, G. (2004). *Masa Cerah dan Masa Suram di Pedesaan Jawa*. Jakarta: LP3ES dan KITLV-Jakarta.
- Brenner, N. (2014). *Implosions/Explosions: Towards a Theory of Planetary Urbanization*. Berlin: Jovis.
- Brenner, N. (2018). Debating Planetary Urbanization: For an Engaged Pluralism. *Environment and Planning D: Society and Space*, 36(3): 570–590.
- Brenner, N. and Schmid, C. (2014). The ‘Urban Age’ in Question. *International Journal of Urban and Regional Research*, 38(3): 731–755.
- Brenner, N. and Schmid, C. (2015). Towards a New Epistemology of the Urban. *City*, 19: 151–82.
- Bricker, J.D., Stubaku, R., Muhari, A. and Kure, S. (2014). Cause of the January 2013 Canal Embankment Failure and Urban Flood in Jakarta, Indonesia. *Journal of Japan Society of Civil Engineering, Ser. B1 (Hydraulic Engineering)*, 70(4): 91–96.
- Bridge, G., McCharty, J. and Perreault, T. (2015). Editors' Introduction. In Perreault, T., Bridge, G. and McCharty, J. (eds.). *The Routledge Handbook of Political Ecology*. New York: Routledge, pp: 3–18.
- Brinkman, J. and Marco, H. (2009). Jakarta Flood Hazard Mapping Framework. *International Conference on Urban Flood Management 25–27 November 2009, Parijs*. Accessed 11 February 2017. Available at: <http://library.wur.nl/WebQuery/titel/1939477>.
- Bryant, R.L. and Bailey, S. (1997). *Third World Political Ecology*. London: Routledge.
- Buckley, M. and Strauss, K. (2016). With, Against and Beyond Lefebvre: Planetary Urbanization and Epistemic Plurality. *Environment and Planning D: Society and Space*, 34(4): 617–636.
- Burkett, P. (1999). Nature’s ‘Free Gifts’ and the Ecological Significance of Value. *Capital & Class*, 23(2): 89–110.

- Caljow, M., Nas P.J.M. and Pratiwo. (2005). Flooding in Jakarta: Towards a Blue City with Improved Water Management. *Bijdragen tot de Taal-, Land-en Volkenkunde (BKI)*, 161(4): 454-84.
- Castriota, R. and Tonucci J. (2018). Extended Urbanization in and from Brazil. *Environment and Planning D: Society and Space*, 36(3): 512-528.
- Chua, C. (2008). *Chinese Big Business in Indonesia: The State of Capital*. New York: Routledge.
- Colbran, N. (2009). Will Jakarta be the Next Atlantis? Excessive Groundwater Use Resulting from a Failing Piped Water Network. *Law, Environment and Development Journal*, 5 (1): 20-37.
- Collins, T.W. (2010). Marginalization, Facilitation, and the Production of Unequal Risk: The 2006 Paso del Norte Foods. *Antipode*, 42(2): 258–288.
- Colven, E. (2017). Understanding the Allure of Big Infrastructure: Jakarta's Great Garuda Sea Wall Project. *Water Alternatives*, 10(2): 250-264.
- Colven, E. (2020). Subterranean Infrastructures in a Sinking City: the Politics of Visibility in Jakarta. *Critical Asian Studies*, 52(3): 311-331.
- Colven, L.E. (2018). *Navigating the Waters of Flood Mitigation in Jakarta: Promoting and Contesting Expert Knowledges*. PhD dissertation, University of California Los Angeles.
- Connolly, C. (2019). Urban Political Ecology beyond Methodological Cityism. *Int. J. Urban Reg. Res.*, 43: 63-75.
- Cousins, J.J. (2017). Volume Control: Stormwater and the Politics of Urban Metabolism. *Geoforum*, 85: 368–380.
- Crouch, H. ([1978]2007). *The Army and Politics in Indonesia*. Jakarta: Equinox Publishing.
- Davis, M. (2006). *Planet of Slums*. London: Verso.
- Deltares, Urban Solutions, Witteveen en Bos, Triple-A, PUSAIR and ITB. (2011). *Atlas Pengamanan Pantai Jakarta/Jakarta Coastal Defence Strategy (Draft 31 Januari 2011)*. Jakarta: Pemerintah Indonesia dan Pemerintah Belanda.
- Deltares. (2013). *Document D2.7: Final Report Jakarta Floods January 2013*. <https://public.wiki.deltares.nl/display/JCP/Final+Reports> (last accessed 27 January 2017).
- Deltares. (2016). *Sinking Jakarta: Causes and Remedies*. Deltares: Delft.
- Deltares. (2016a). *Sinking Jakarta: Causes and Remedies. Annex A, B & C*. Deltares: Delft.

- Derickson, D. (2018). Masters of the Universe. *Environment and Planning D: Society and Space*, 36(3): 556 – 562.
- Diantoro, T.D. (2011). Quo Vadiz Hutan Jawa. *Wacana*, 25 (XIII): 5–26.
- Dieleman, M. (2007). *The Rhythm of Strategy: A Corporate Biography of the Salim Group of Indonesia*. Amsterdam: Amsterdam University Press.
- Djalins U.W.M. (2012). *Subjects, Lawmaking and Land Rights: Agrarian Regime and State Formation in Late-colonial Netherlands East Indies*. PhD dissertation, Cornell University.
- DKI Jakarta Water Resources Agency. (2017). *Data Sumur Dangkal dan Sumur Dalam di Provinsi DKI Jakarta* (Database).
- Dolgoft, S. (1974). The Spanish Revolution. In Dolgoft, S (ed.) *The Anarchist Collectives: Workers' Self-Management in the Spanish Revolution 1936-1939. Introductory Essay by Murray Bookchin*. New York: Free Life Editions, Inc.
- Douglas, I. (2016). The Challenge of Urban Poverty for the Use of Green Infrastructure on Floodplains and Wetlands to Reduce Food Impacts in Intertropical Africa. *Landscape and Urban Planning*, 180: 262-272.
- Douglas, I., Alam, K., Maghenda, M., McDonnel, Y., McLean, L. and Campbell, J. (2008). Unjust Water: Climate Change, Flooding, and the Urban Poor in Africa. *Environment and Urbanization*, 20(1): 187–205.
- DPU (Departemen Pekerjaan Umum). (1993). *Bedungan Serbaguna Sempor*. Jakarta: Departemen Pekerjaan Umum Direktorat Jenderal Pengairan Direktorat Irigasi II Badan Pelaksana Proyek Serbaguna Kedu Selatan.
- dw.com. (2017). “Samin vs Semen” Diputar di 10 Kota di Jerman. <http://www.dw.com/id/samin-vs-semen-diputar-di-10-kota-di-jerman/a-38652664> (last accessed 26 May 2017).
- Ekers, M. and Prudham, S. (2017). The Metabolism of Socioecological Fixes: Capital Switching, Spatial Fixes, and the Production of Nature. *Annals of the American Association of Geographers*, 107(6): 1370–1388.
- Engels, F. (1872). *The Housing Question*. Accessed 15 September 2020. https://www.marxists.org/archive/marx/works/download/Marx_The_Housing_Question.pdf.
- Engels, F. 1970[1976]. The Peasant Question in France and Germany. In Karl Marx and Friedrich Engels (eds.) *Selected Works*. Moscow: Progress Publisher, Vol. 3: 458–476
- Fachri, M., Djuhaeni, Hutasoit, L.M. and Ramdhan, A.M. (2002). Stratigrafi dan Hidrostratigrafi Cekungan Airtanah Jakarta. *Bulletin Geologi*, 34: 169-189.

- Faedo, G. (2014). *A Case Study in Socio-hydrology: Flood Events in Jakarta, Indonesia*. Master thesis, UNESCO-IHE Delft.
- Fakih, F. (2020). *Authoritarian Modernization in Indonesia's Early Independence Period: The Foundation of the New Order State (1950-1965)*. Leiden: Brill.
- Farid, H. (2005). Indonesia's Original Sin: Mass Killing and Capitalist Expansion, 1965–66. *Inter-Asia Cultural Studies*, 6 (1): 3–16.
- Feith, H. (1979). *Repressive-Developmentalist Regimes in Asia*. Paper was presented at the New York Conference of the World Order Models Project, June 1979.
- Finance.detik.com. (2014). *Biaya Reklamasi Cuma Rp 4 Juta/Meter, Lebih Murah dari Harga Tanah di Jakarta*. <http://finance.detik.com/berita-ekonomi-bisnis/d-2630576/biaya-reklamasi-cuma-rp-4-jutameter-lebih-murah-dari-harga-tanah-di-jakarta> (last accessed 8 October 2016)
- Firman, T. (2000). Rural to Urban Land Conversion in Indonesia During Boom and Bust Periods. *Land Use Policy*, 17(1): 13–20.
- Firman, T. (2004). New Town Development in Jakarta Metropolitan Region: A Perspective of Spatial Segregation. *Habitat International*, 28(3): 349–368.
- Fisher, F.R. (1987). Allelopathy: A Potential Cause of Forest Regeneration Failure. *ACS Symposium Series*, 330: 176–184.
- Forest Watch Indonesia. (2012). *Hilangnya Fungsi Kawasan Lindung di Puncak Bogor*. Bogor: Forest Watch Indonesia.
- Fraser N. (2014). Behind Marx's Hidden Abode: For an Expanded Conception of Capitalism. *New Left Review*, 86: 55-72.
- Furlong, K. and Kooy, M. (2017). Worlding Water Supply: Thinking Beyond the Network in Jakarta. *Int. J. Urban Reg. Res.*, 41: 888-903.
- Gandy, M. (2002). *Concrete and Clay: Reworking Nature in New York City*. New York: Massachusetts Institute of Technology.
- Garschagen, M., Surtiari, G.A.K. and Harb, M. (2018). Is Jakarta's New Flood Risk Reduction Strategy Transformational? *Sustainability*, 10: 1-18.
- Gavin, S. and Soemarwi, V. (2021). Risk and the Dialectic of State Informality: Property Rights in Flood Prone Jakarta. *Annals of the American Association of Geographers*, 111(4): 1183-1199.
- Gea, C., Karmilah, M., Hafidhoh, N.L. and Martodikromo, S. (2020). *Komunike Covid-19 Kobar*. Yogyakarta: Lintas Nalar.

- Gebrak – Gerakan Buruh Bersama Rakyat. (2020). *Penuhi Kewajiban Perlindungan dan Peningkatan Kesejahteraan: Hentikan Pembahasan Omnibus Law Cipta Kerja, Fokus Atasi Krisis Covid-19*. Jakarta: Gebrak.
- Gellert, P.K. (1998). A Brief History and Analysis of Indonesia's Forest Fire Crisis. *Indonesia*, 65: 63–85.
- Gellert, P.K. (2003). Renegotiating a Timber Commodity Chain: Lessons from Indonesia on the Political Construction of Global Commodity Chains. *Sociological Forum*, 18(1): 53–84.
- Gellert, P.K. (2005). For A Sociology of 'Socionature': Ontology and the Commodity-based Approach. In Paul S. Ciccantell, David A. Smith, and Gay Seidman (eds.). *Nature, Raw Materials and Political Economy*. Amsterdam: Elsevier, pp. 46-65.
- Gellert, P.K. (2019). Neoliberalism and Altered State Developmentalism in the Twenty-first Century Extractive Regime of Indonesia. *Globalizations*, 16(6): 894-918.
- Ghosh, S. and Meer, A. (2020). Extended Urbanisation and the Agrarian Question: Convergences, Divergences and Openings. *Urban Studies*, 58(6): 1097–1119.
- Gidwani, V. (2008). *Capital, Interrupted: Agrarian Development and the Politics of Work in India*. Minneapolis: University of Minnesota Press.
- Gidwani, V. and Ramamurthy P. (2018). Agrarian Questions of Labor in Urban India: Middle Migrants, Translocal Householding and the Intersectional Politics of Social Reproduction. *The Journal of Peasant Studies*, 45(5-6): 994-1017.
- GlobeAsia.com. (2016). *150 Richest Indonesians*. <http://www.globeasia.com/cover-story/150-richest-indonesians/> (last accessed 14 December 2017).
- Goh, K. (2019a). Urban Waterscapes: The Hydro-Politics of Flooding in a Sinking City. *International Journal of Urban and Regional Research*, 43(2): 250–272.
- Goh, K. (2019b). Flows in Formation: The Global-Urban Networks of Climate Change Adaptation. *Urban Studies*, 57(11): 2222–2240.
- GOI. (2011). *Consolidated Summary of the Environmental Impact Assessment (Draft: Jakarta Urgent Flood Mitigation Project/JUFMP)* Document number E2658v5. Jakarta: Ministry of Public Works, Directorate General of Water Resources.
- Goldstein, J.E., Graham, L., Ansori, S., Vetrita, Y., Thomas, A., Applegate, G., Vayda, A.P., Saharjo, B.H. and Cochrane, M.A. (2020). Beyond Slash-and-Burn: The Roles of Human Activities, Altered Hydrology and Fuels in Peat Fires in Central Kalimantan, Indonesia. *Singapore Journal of Tropical Geography*, 41(2): 190–208.

- Goonewardena, K. (2014). The Country and the City in the Urban Revolution. In Neil Brenner (ed.) *Implosions/Explosions: Towards A Theory of Planetary Urbanization*. Berlin: Jovis, pp. 218–231.
- Goonewardena, K. (2018). Planetary Urbanization and Totality. *Environment and Planning D: Society and Space*, 36(3): 456-473.
- Graham, S. and Marvin, S. (2001). *Splintering Urbanism*. London: Routledge.
- Gunawan, R. (2010). *Gagalnya Sistem Kanal: Pengendalian Banjir Jakarta dari Masa ke Masa*. Jakarta: Kompas.
- Guntoro. (2020). *Penyelesaian Konflik Pertanahan dan Pemenuhan Keamanan Bermukim di Kampung Informal Perkotaan dalam Perspektif Reforma Agraria* (Bachelor thesis/skripsi). Jakarta: Sekolah Hukum Jentera.
- Habibi, M. (2018) *Dana Desa Hanya Memberdayakan Elite Desa, Bukan Petani*. Available at: <https://tirto.id/dana-desa-hanya-memberdayakan-elite-desa-bukan-petani-dawv> [accessed on 27/09/20210].
- Habibi, M. (2021a). Laju Kapital dan Dinamika Kelas Ekonomi Informal Perkotaan. *Prisma*, 40(3): 13-29.
- Habibi, M. and Juliawan, B.H. (2018). Creating Surplus Labour: Neo-Liberal Transformations and the Development of Relative Surplus Population in Indonesia. *Journal of Contemporary Asia*, 48(4): 649–670.
- Habibi, M. (2021). Masters of the Countryside and Their Enemies: Class Dynamics of Agrarian Change in Rural Java. *Journal of Agrarian Change*, 21(4): 720– 746.
- Hadiz, V.R. and Robinson, R. (2013). The Political Economy of Oligarchy and the Reorganization of Power in Indonesian. *Indonesia*, 96: 35-57.
- Hadiz, V.R. and Robinson, R. (2017). Competing Populism in Post-authoritarian Indonesia. *International Political Science Review*, 38(4): 488-502.
- Hall, D., Hirsch, P. and Li, T.M. (2011). *Powers of Exclusion: Land Dilemmas in Southeast Asia*. Singapore: NUS Press.
- Haraway, D. (1988). Situated Knowledge: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14(3): 575-599.
- Haraway, D.J. (1991). *Simians, Cyborg, and Women: The Reinvention of Nature*. New York: Routledge.
- Hart, G. (1988). Agrarian Structure and the State in Java and Bangladesh. *The Journal of Asian Studies*, 47(2): 249–267.

- Hart, G.P. (1978). *Labor Allocation Strategies in Rural Javanese Households*. PhD dissertation, Cornell University.
- Harto, A. and Kondoh, A. (1998). The Effect of Land Use Changes on the Water Balance in the Ciliwung Cisadane Catchment, West Java, Indonesia. *Proceedings of International Symposium on Hydrology, Water Resources and Environment Development and Management in Southeast Asia and the Pacific*, Teugu, Republic of Korea
- Harvey, D. (1982[2006]). *The Limits to Capital*. London: Verso.
- Harvey, D. (1996). Cities or Urbanization? *City: analysis of urban trends, culture, theory, policy, action*, 1 (1-2): 38-61.
- Harvey, D. (1996b). *Justice, Nature & the Geography of Difference*. Cambridge: Blackwell.
- Harvey, D. (2001). *Spaces of Capital: Towards a Critical Geography*. Edinburgh: Edinburgh University Press.
- Harvey, D. (2003). *The New Imperialism*. Oxford: Oxford University Press.
- Harvey, D. (2004). *Spaces of Neoliberalization: Towards a Theory of Uneven Geographical Development*. München: Franz Steiner Verlag.
- Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford University Press: Oxford.
- Harvey, D. (2012). *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso.
- Hellman, J. (2015). Living with Floods and Coping with Vulnerability. *Disaster Prevention and Management*, 24(4): 468-483.
- Heryanto, A. (1988). The “Development” of Development. *Indonesia*, 46: 1-24.
- Heryanto, A. (2004). The Debris of Post-Authoritarianism in Indonesia. In Lele, J. and Quadir, F. (eds.) *Democracy and Civil Society in Asia: Democratic Transition and Social Movements in Asia*. New York: Palgrave Macmillan, Volume 2, pp. 65-85.
- Heryanto, A. and Hadiz, V.R. (2006). Post-authoritarian Indonesia. *Critical Asian Studies*, 37(2): 251-275.
- Heynen, N. (2014). Urban Political Ecology I: The Urban Century. *Progress in Human Geography*, 38(4): 598-604.
- Heynen, N. (2015). Urban Political Ecology II: The Abolitionist Century. *Progress in Human Geography*, 40(6): 839-845.
- Heynen, N. (2017). Urban Political Ecology III: Feminist and Queer Century. *Progress in Human Geography*, 42(3): 446-452.

- Heynen, N. Kaika, M. and Swyngedouw, E. (2006). Urban Political Ecology: Politicizing the Production of Urban Natures. In Heynen, N., M. Kaika, and E. Swyngedouw (eds.) *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*. New York: Routledge Taylor & Francis Group, pp. 1-19.
- Hiariej, E. (2003). *The Historical Materialism and the Politics of the Fall of Soeharto*. Master thesis, Australian National University.
- Hiariej, E. (2006). Perkembangan Kapitalisme Negara di Indonesia. *Jurnal Ilmu Sosial dan Politik*, 10(1): 91-120.
- Hidayat, R. and Lin, M.M. (2018). 2050, Jakarta Utara ‘Tenggelam’: Semua yang Perlu Anda Ketahui. BBC Indonesia, 13 August 2018. Accessed on October 14th, 2020. Available at: <https://www.bbc.com/indonesia/resources/idx-3928e4ca-f33b-4657-aa35-98eb5987f74e>.
- Huber, A., Iroumé, A. and Bathurst, J. (2008). Effect of Pinus Radiata Plantations on Water Balance in Chile. *Hydrological Processes*, 22: 142–148.
- Hugo, G.J. (1982). Circular Migration in Indonesia. *Population and Development Review*, 8(1): 59–83.
- Hurford, A.P., Maksimović, Č. and Leitão, P. (2010). Urban Fluvial Flooding in Jakarta: Applying State-of-the Art Technology in Data Scarce Environment. *Water Science & Technology*, 62(10): 2246-2255.
- Hüsken, F. and White, B. (1989). Ekonomi Politik Pembangunan Pedesaan dan Struktur Agraria Jawa. *Prisma*, 4: 15–37.
- Indocement. (2014). *Maintaining Good Achievement in Expanding Market: 2014 Annual Report*. Bogor: Indocement. [http://www.indocement.co.id/v5/IndocementContent/Attachment/Report/Annual%20Report/09%20AR%20INDOCEMENT%202014\(1\).pdf](http://www.indocement.co.id/v5/IndocementContent/Attachment/Report/Annual%20Report/09%20AR%20INDOCEMENT%202014(1).pdf) (last accessed 13 October 2015).
- Indonesia Power. (2016). *2016 Statistic Report*. Jakarta: Indonesia Power.
- Jansen, K. (2014). The Debate on Food Sovereignty Theory: Agrarian Capitalism, Dispossession and Agroecology. *The Journal of Peasant Studies*, 42(1): 213–232.
- Jazeel, T. (2018). Urban Theory with an Outside. *Environment and Planning D: Society and Space*, 36(3): 405-419.
- JICA. (2017). *Republic of Indonesia Detailed Planning Survey on the Project for Support for JKT's Response to Land Subsidence through Strengthening Capacity for Sustainable Groundwater and Surface Water Management* (Draft Final Report (Summary)). Jakarta: JICA.

- Johansyah, M., Rupang, P., Apriando, T., Zamzami, Meutia, H., Saini, A., Suhadi, Z., Birry, A.A., Nasution, M., Indradi, Y. and Prayoga, A.P. (2019). *Ibu Kota Baru Buat Siapa?* Jakarta: Koalisi Bersihkan Indonesia.
- Jones III, J.P., Leitner, H., Marston, S.A. and Sheppard, E. (2016). Neil Smith's Scale. *Antipode*, 49(S1): 138-152.
- Joy, K.J., Kulkarni, S., Roth, D. and Zwarteveen, M. (2014). Re-politicising Water Governance: Exploring Water Re-allocations in Terms of Justice. *Local Environment*, 19(9): 954-973.
- Julianery, B.E. (2007). *Kajian Upaya Pengendalian Banjir DKI Jakarta: Rencana dan realisasi pembangunan Banjir Kanal Timur*. Master thesis, Universitas Indonesia.
- Kagabu, M., Shimada, J., Delinom, R., Nakamura, T. and Taniguchi, M. (2013). Groundwater Age Rejuvenation Caused by Excessive Urban Pumping in Jakarta Area, Indonesia. *Hydrological Processes*, 1-14.
- Kaika, M. (2005). *City of Flows: Modernity, Nature, and the City*. New York: Routledge.
- Kaika, M. (2006). Dams as Symbols of Modernization: The Urbanization of Nature between Geographical Imagination and Materiality. *Annals of Association of American Geographers*, 96(2): 276-301.
- Kallis, G. and Swyngedouw, E. (2017). Do Bees Produce Value? A Conversation between an Ecological Economist and a Marxist Geographer. *Capitalism Nature Socialism*, 29(3): 36-50.
- Kanumoyoso, B. (2001). *Menguatnya Peran Ekonomi Negara: Nasionalisasi Perusahaan Belanda di Indonesia*. Jakarta: Pustaka Sinar Harapan.
- Kanumoyoso, B. (2011). *Beyond the City Wall: Society and Economic Development in the Ommelanden of Batavia, 1684-1740*. PhD dissertation, Universiteit Leiden.
- Kautsky, K. (1899[1988]). *The Agrarian Question* (in two volumes). Translated by Pete Burgess. London: Zwan Publications.
- Keil, R. (2005). Progress Report – Urban Political Ecology. *Urban Geography*, 26(7): 640-651.
- Keil, R. (2013). Urban Political Ecology. *Urban Geography*, 24(8): 723–738.
- Keil, R. (2018). Extended Urbanization, “Disjunct Fragments” and Global Suburbanisms. *Environment and Planning D: Society and Space*, 36(3): 494-511.
- Kementerian Pekerjaan Umum. (2015). *Analisa Dampak Lingkungan Kegiatan Normalisasi Kali Ciliwung Dari Pintu Air Manggarai Sampai Jembatan Tol TB. Simatupang* (Environmental Impact Assessment). Kementerian Pekerjaan Umum

Direktorat Jenderal Sumber Daya Air Balai Besar Wilayah Sungai Ciliwung Cisadane: Jakarta.

Kenichiro, A. (2001). Only Yesterday in Jakarta: Property Boom and Consumptive Trends in the Late New Order Metropolitan City. *Southeast Asian Studies*, 38(4): 481-511.

Kenichiro, A. (2015). Jakarta "Since Yesterday": The Making of the Post-New Order Regime in and Indonesian Metropolis. *Southeast Asian Studies*, 4(3): 445-486.

Khatam, A. and Haas, O. (2018). Interrupting Planetary Urbanization: A View from Middle Eastern Cities. *Environment and Planning D: Society and Space*, 36(3): 439-455.

Kipfer, S. (2014). Worldwide Urbanization and Neocolonial Fracture: Insights from the Literary World. In N. Brenner (ed.) *Implosions/Explosions: Towards a Theory of Planetary Urbanization*. Berlin: Jovis, pp. 288–305.

Kipfer, S. (2018). Pushing the Limits of Urban Research: Urbanization, Pipelines and Counter-colonial Politics. *Environment and Planning D: Society and Space*, 36(3): 474-493.

Klein, N. (2007). *The Shock Doctrine: The Rise of Disaster Capitalism*. New York: Macmillan.

Kompas, (1995b), Wujud Nyata Gemilang Hidup di Pantai Mutiara. *Kompas*, 8 December.

Kompas. (1974). Jakarta Hilton Hotel Selesai Dibangun Agustus 1975. *Kompas*, `10 September, p. 7.

Kompas. (1977). Jakarta Masih Ditembus Pendatang Baru. *Kompas*, 22 February, p. III.

Kompas. (1985). Warga Kota yang Mudik Suka Ajak Kerabatnya Berurbanisasi ke DKI. *Kompas*, 24 May, p. III.

Kompas. (1987). Urbanisasi di DKI Timbulkan Problema Ruwet. *Kompas*, 4 March. p. 4.

Kompas. (1989). Jumlah Pendatang di DKI Terbanyak dari Jawa Barat. *Kompas*, 22 August, p. III.

Kompas. (1992). Pendatang Baru di Jakarta Ditertibkan Setelah Pemilu. *Kompas*, 2 May. p. 7

Kompas. (1992a). Jakarta Convention Center, Setelah KTT. *Kompas*, 10 September, p. 7.

Kompas. (1993). 50 Pengusaha YPM Miliki Omset 83 Persen dari APBN. *Kompas*, 5 February 5, p. 1 and 15.

- Kompas. (1993a). Rawa Harus Dipertahankan sebagai "Retarder" Alami Mencegah Banjir. *Kompas*, 17 February, p. 8.
- Kompas. (1995). Tanpa Keterampilan, Jangan ke Jakarta. *Kompas*, 9 March, p.1.
- Kompas. (1995a). Menghadirkan Kota Pantai di Pemukiman Kota Jakarta. *Kompas*, 26 May, p. 16.
- Kompas. (1995b). Konsorsium Hashim dan Titi Kelola Areal Strategis Senayan. *Kompas*, 23 August 23, p. 2.
- Kompas. (1996). Selamat Datang Warga Baru Jakarta. *Kompas*, 28 February. p.1.
- Kompas. (1997). Hotel Mulia Harus Bayar Denda Rp 20 Milyar. *Kompas*, 1 December, p. 3.
- Kompas. (1998). Hotel Mulia Perlu Komitmen Tertulis. *Kompas*, 7 October, p. 14.
- Kompas. (2000). 200.000 Pendatang Baru ke Jakarta. *Kompas*, 18 January, p. 7.
- Kompas. (2000a). Membangun Kawasan Puncak Butuh Keterbukaan. *Kompas*, 14 April, p. 20.
- Kompas. (2003a). Operasi Yustisi ke Rumah Warga Segera Dilaksanakan. *Kompas*, 1 December, p. 17.
- Kompas. (2003b). Pemudik Agar Tidak Bawa Teman ke Jakarta. *Kompas*, 19 November, p.6.
- Kompas. (2003c). Pendatang Diberi Waktu 14 Hari Urus Surat-surat. *Kompas*, 27 November, p. 17.
- Kompas. (2004). DKI Perketat Pendatang Baru. *Kompas*, 6 November, p.17.
- Kompas. (2006). 124.427 Pendatang Baru Masuk Jakarta. *Kompas*, 10 November, p.27.
- Kompas. (2007). Tiga Minggu Terendam, Warga Demo. *Kompas*, 22 November, p. 26.
- Kompas. (2007a). Kasus Hilton: Ali Sadikin Kaget PT Indobuildco Milik Swasta. *Kompas*, 31 January, p. 3.
- Kompas. (2012). Operasi Yustisi Bukan Solusi. *Kompas*, 22 August, p.1.
- Kompas. (2013). Pendatang Baru di DKI Diduga Bertambah. *Kompas*, 28 August, p. 25.
- Kompas. (2014). Urbanisasi Bukan Pilihan, tapi Terpaksa. *Kompas*, 1 August, p. 2.
- Kompas. (2016) Beban Ibu Kota Kian Berat. *Kompas*, 11 July, p. 1.
- Kompas.com. (2016a). *Inilah Kawasan yang Telah Berubah dari RTH Jadi Perumahan dan Area Perdagangan.*
[http://megapolitan.kompas.com/read/2016/02/23/15130671/Inilah.](http://megapolitan.kompas.com/read/2016/02/23/15130671/Inilah)

Kawasan.yang.Telah.Berubah.dari.RTH.Jadi.Perumahan.dan.Area.Perdagangan (last accessed 26 May 2017).

Kompas.com. (2016b). *Shore Management to be Integrated*. <http://print.kompas.com/baca/english/2016/04/28/Shore-Management-Projects-to-Be-Integrated> (last accessed 26 May 2017).

Kompas.com. (2016c). *Pasir di Banten Dikeruk untuk Reklamasi di Jakarta*. <http://megapolitan.kompas.com/read/2016/08/18/14521551/pasir.di.banten.dikeruk.untuk.reklamasi.di.jakarta> (last accessed 26 May 2017).

Kooy, M. and Bakker, K. (2008). Technologies of Government: Constituting Subjectivities, Spaces, and Infrastructures in Colonial and Contemporary Jakarta. *International Journal of Urban and Regional Research*, 32(2): 375–391.

KPA (Konsorsium Pembaruan Agraria). (2012). *Terkuburnya Keadilan Agraria bagi Rakyat* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2013). *Warisan Buruk Masalah Agraria di Bawah Kekuasaan SBY* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2014). *Membenahi Masalah Agraria: Prioritas Kerja Jokowi-JK pada 2014* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2015). *Reforma Agraria dan Penyelesaian Konflik Agraria Disandera Birokrasi* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2016). *Liberalisasi Agraria Diperhebat, Reforma Agraria Dibelokkan* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2017). *Reforma Agraria di Bawah Bayangan Investasi: Gaung Besar di Pinggiran Jalan* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2018). *Masa Depan Reforma Agraria Melampaui Tahun Politik* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2019). *Dari Aceh Sampai Papua: Urgensi Penyelesaian Konflik Struktural dan Jalan Pembaruan Agraria ke Depan* (Laporan Akhir Tahun). Jakarta: KPA.

KPA. (2020). *Laporan Konflik Agraria di Masa Pandemi dan Krisis Ekonomi* (Edisi Peluncuran I, Laporan Akhir Tahun). Jakarta: KPA.

KPK. (2017). *Agenda Perbaikan Tata Kelola Sumberdaya Air Tanah: Gerakan Nasional Penyelamatan Sumberdaya Alam* (presentation material). Jakarta: KPK.

Kunio, Y. (1990). *Kapitalisme Semu Asia Tenggara*. Jakarta: LP3ES.

Kusni, J.J. (2005). *Di Tengah Pergolakan Turba LEKRA di Klaten*. Yogyakarta: Ombak.

- Kusno, A. (2011). The Green Governmentality in an Indonesian Metropolis. *Singapore Journal of Tropical Geography*, 32: 314-331.
- Kusno, A. (2013). *After the New Order: Space, Politics and Jakarta*. Honolulu: University of Hawai'i Press.
- Kusno, A. (2020). Middling Urbanism: The Megacity and the Kampung. *Urban Geography*, 41(7): 954-970.
- KW (Kedunwringin). (2016). *Profil Desa* (Village Document, unpublished). Kedungwringin.
- Lane, M. (2010). Indonesia and the Fall of Suharto: Proletarian Politics in the "Planet of Slums" Era. *The Journal of Labor and Society*, 13(2): 185–200.
- Lane, M. (2014). *Unfinished Nation*. Yogyakarta: penerbit djaman baroe.
- Larasati, R.D. (2013). *The Dance That Makes You Vanish: Cultural Reconstruction in Post- Genocide Indonesia*. Minneapolis: University of Minnesota Press.
- Lave, R. (2015). Reassembling the Structural: Political Ecology and Actor-Network Theory. In Perreault, T., Bridge, G. and McCharty, J. (eds.) *The Routledge Handbook of Political Ecology*. New York: Routledge, pp. 213-223.
- Lave, R., Wilson, M.W., Barron, E., Bierman, C., Carey, M.A., Duvall, C.S., Johnson, L., Lane, K.M., McClintock, N., Munroe, D., Pain, R., Proctor, J., Rhoads, B.L., Robertson, M.M., Rossi, J., Sayre, N.F., Simon, G., Tadaki, M. and van Dyke, C. (2014). Intervention: Critical Physical Geography. *The Canadian Geographer*, 58: 1-10.
- LBH-J. (2016). *Atas Nama Pembangunan: Laporan Penggusuran Paksa di Wilayah DKI Jakarta Tahun 2015*. Jakarta: LBH-Jakarta
- LBH-J. (2016b). *Mereka yang Terasing: Laporan Pemenuhan Hak atas Perumahan yang Layak bagi Korban Penggusuran Paksa Jakarta yang Menghuni Rumah Susun*. Jakarta: LBH-Jakarta
- LBH-J. (2017). *Seperti Puing: Laporan Penggusuran Paksa di Wilayah DKI Jakarta Tahun 2016*. Jakarta: LBH-Jakarta.
- Leaf, M. (1994). The Suburbanization of Jakarta: A Concurrence of Economics and Ideology. *Third World Planning Review*, 16(4): 341–356.
- Leaf, M. (2015). Exporting Indonesian Urbanism: Ciputra and the Development Vision of Market Modernism. *South East Asia Research*, 23: 169-186.
- Lefebvre, H. (1970[2014]). "From the City to Urban Society." In Neil Brenner (ed.) *Implosions/Explosions: Towards A Theory of Planetary Urbanization*. Berlin: Jovis, pp. 36–51.

- Lefebvre, H. (1991). *The Production of Space*. Oxford: Blackwell.
- Lefebvre, H. (1996). Industrialization and Urbanization. In Henri Lefebvre (ed.) and Eleonore Kofman and Elizabeth Lebas (translator) *Writings on Cities*. Malden: Blackwell Publisher, pp. 65–85.
- Lefebvre, H. (2000). *Writings on Cities*. Massachusetts: Blackwell Publishers Inc.
- Lefebvre, H. (2002). *Critique of Everyday Life Volume II: Foundations for a Sociology of the Everyday* (translated by John Moore). London: Verso.
- Lefebvre, H. (2003). *The Urban Revolution*. Minneapolis: University of Minnesota Press.
- Lefebvre, H. (2014[1970]). From the City to Urban Society. In N. Brenner (ed.), *Implosions/Explosions: towards a theory of planetary urbanization*. Berlin: Jovis, pp. 36–51.
- Leitner, H. and Sheppard, E. (2018). From Kampung to Condos? Contested Accumulations through Displacement in Jakarta. *Environment and Planning A: Economy and Space*, 50(2): 437–456.
- Lenin, V. I. (1972 [1908]). The Agrarian Programme of Social-democracy in the First Russian Revolution, 1905–07. In: *Collected Works*. Vol. 13. Moscow: Progress Publishers, pp. 217–249.
- Li, T. M. (2021). Commons, Co-ops, and Corporations: Assembling Indonesia’s Twenty-first Century Land Reform. *The Journal of Peasant Studies*, early view: <https://www.tandfonline.com/doi/abs/10.1080/03066150.2021.1890718?journalCode=fjps20>.
- Li, T.M. (2001). Masyarakat Adat, Difference, and the Limits of Recognition in Indonesia’s Forest Zone. *Modern Asian Studies*, 35(3): 645–676.
- Li, T.M. (2007). *The Will to Improve: Governmentality, Development, and the Practice of Politics*. Durham: Duke University Press.
- Li, T.M. (2009). To Make Live or Let Die? Rural Dispossession and the Protection of Surplus Populations. *Antipode*, 41(S1): 66–93.
- Li, T.M. (2014). *Land’s end: Capitalis Relations on an Indigenous Frontier*. London: Duke University Press.
- Liong, J.T., Leitner, H., Sheppard, E., Herlambang, S. and Astuti, W. (2020). Space Grabs: Colonizing the Vertical City. *International Journal of Urban and Regional Research*, 44(6): 1072–1082.
- Loftus, A. (2020). Political Ecology III: Who are ‘the People’? *Progress in Human Geography*, 44(5): 981–990.

- Luthfi, A. N. (2021). Reforma agraria hijau perkotaan. Retrieved from https://www.kompas.id/baca/opini/2021/03/29/reforma-agraria-hijau-di-perkotaan/?fbclid=IwAR02j6Q61EyZpOu3RYAisAWnce9NywHjabYiq_igdNTny2d06Uyx7ewH9iY.
- Luxemburg, R. (1951[2003]). *The Accumulation of Capital* (translated by Agnes Schwarzschild). London and New York: Routledge Classics.
- Magee, D. (2015). Dams: Controlling Water but Creating Problems. In Paul G. Harris and Graeme Lang (ed.) *Routledge Handbook of Environment and Society in Asia*. New York: Routledge, pp. 216–236.
- Mahkamah Agung. (2017). *Putusan Nomer 4 K/TUN/2017*. Jakarta: Mahkamah Agung.
- Majalah Detik. (2013). Duit Jokowi di Balik Gusuran Villa. *Majalah Detik*, 16–22 December.
- Majalah Tempo. (2002). Vila Liar Para Jenderal? *Majalah Tempo*, 25 February–3 March.
- Majalah Tempo. (2007). Tidak Terbuka, Tidak Hijau. *Majalah Tempo*, October 22–28: 108–109.
- Majalah Tempo. (2007a). Bunuh Diri Ekologis. *Majalah Tempo*, 22–28 October.
- Majalah Tempo. (2007b). Master (Plin) Plan Jakarta. *Majalah Tempo*, 22–28 October.
- Majalah Tempo. (2007c). Tidak Terbuka Tidak Hijau. *Majalah Tempo*, 22–28 October.
- Majalah Tempo. (2007d). Pejabat di Puncak: Banjir Jakarta. *Majalah Tempo*, 21–27 May.
- Marfai, M.A., Sekaranom, A.B. and Ward, P. (2015). Community Responses and Adaptation Strategies Toward Flood Hazard in Jakarta, Indonesia. *Nat Hazards*, 75: 1127–1144.
- Mariana, A. and Batubara, B. (2015). *Seni dan Sastra untuk Kedaulatan Petani Urutsewu*. Yogyakarta: Literasi Press.
- Marschiavelli, M.I.C. (2008). *Vulnerability Assessment and Coping Mechanisms Related to Flood in Urban Areas: A community Based Case Study in Kampung Melayu, Indonesia*. Master thesis, Gadjah Mada University and ITC-Enschede.
- Martosuparno, S., Suherman, D. and Kagabu, M. (2014). Kualitas Air Tanah Cekungan Jakarta. In: Delinom, R.M. (ed.) *Ancaman Bawah Permukaan Jakarta: Tak Terlihat, Tak Terpikirkan, dan Tak Terduga*. Jakarta: LIPI Press, pp. 159–204.
- Marx, K. (1863–1883[1991]). *Capital: A Critique of Political Economy, Volume III*. London: Penguin Books in association with New Left Review.
- Marx, K. (1867[1982]). *Capital: A Critique of Political Economy. Vol. I*. Great Britain: Penguin Books Ltd.

- Marx, K. (1885[1978]). *Capital: A Critique of Political Economy*, Volume II. London: Penguin Books and New Left Review.
- Marx, K. and Engels, F. (1848[2008]). *The Manifesto of the Communist Party*. London: Pluto Press.
- Marx, K. and Engels, F. (1986). *A Critique of the German Ideology*. URL: https://www.marxists.org/archive/marx/works/download/Marx_The_German_Ideology.pdf [accessed at May 25th, 2019].
- McCarthy, J. (2013). Tenure and Transformation in Central Kalimantan After the “Million Hectare” Project. In Anton Lucas and Carrol Warren (ed.) *Land for the People: The State and Agrarian Conflict in Indonesia*. Athens: Ohio State University Press, pp. 183–214.
- McLean, H. (2018). In Praise of Chaotic Research Pathways: A Feminist Response to Planetary Urbanization. *Environment and Planning D: Society and Space*, 36(3): 547–555.
- McNaughton, C. (2015). Reading the Mass Violence in Indonesia 1965–1966 as a Form of Primitive Accumulation. *Inter-Asia Cultural Studies*, 16(2): 292-305.
- McNicoll, G. (1968). Internal Migration in Indonesia: Descriptive notes. *Indonesia*, 5: 29-92.
- Meehan, K.M. (2014). Tool-power: Water Infrastructure as Wellsprings of State Power. *Geoforum*, 57: 215–224.
- MEF (Ministry of Environment and Forestry). (2018a). *The State of Indonesia’s Forest 2018*. Jakarta: MEF, Republic of Indonesia.
- MEF. (2018b). *Statistik Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem Tahun 2017*. Jakarta: MEF.
- Megapolitan.kompas.com. (2014). Jokowi: Macet dan Banjir Lebih Mudah Diatasi Jika Jadi Presiden. 24 Maret. URL: <https://megapolitan.kompas.com/read/2014/03/24/1553111/Jokowi.Macet.dan.Banjir.Lebih.Mudah.Diatasi.jika.Jadi.Presiden>; accessed at 02.04.2018
- Megapolitan.kompas.com. (2015). Ahok: Kasih Tahu Pengamat, Saya Lulusan Geologi Paling Cepat di Angkatan Saya. 12 Oktober. URL: <https://megapolitan.kompas.com/read/2015/10/12/10472051/Ahok.Kasih.Tahu.Pengamat.Saya.Lulusan.Geologi.Paling.Cepat.di.Angkatan.Saya>; accessed at: 02.04.2018
- Melvin, J. (2018). *The Army and the Indonesian Genocide: Mechanics of Mass Murder*. New York: Routledge.

- Merrifield, A. (2013). *The Politics of the Encounter: Urban Theory and Protest Under Planetary Urbanization*. Athens: The University of Georgia Press.
- Metro.tempo.co. (2010). *Masih Ingat Janji Kampanye Fauzi Bowo?* Oktober 2010. URL: <https://metro.tempo.co/read/283443/masih-ingat-janji-kampanye-fauzi-bowo>; accessed at 02.04.2018
- MetrotvNews.com. (2016). *Warga Bukit Duri yang Punya Sertifikat Tanah akan Dapat Ganti Rugi*. <http://news.metrotvnews.com/read/2016/09/20/585957/warga-bukit-duri-yang-punya-sertifikat-tanah-akan-dapat-ganti-rugi> (last accessed 26 May 2017).
- Miftahuddin. (2002). *Radikalisasi Pemuda: Studi tentang Gerakan Sosial Politik Partai Rakyat Demokratik (PRD)*. Master thesis, Universitas Indonesia.
- Milone, P.D. (1967). *Queen City of the East: The Metamorphosis of a Colonial Capital*. PhD dissertation, University of California Berkeley.
- Ministry of Public Works. (2011). *Jakarta Coastal Defence Strategy: Agenda*. Jakarta: Ministry of Public Works.
- Mitchell, T. (2002). *Rule of Experts: Egypt, Techno-Politics, Modernity*. California: University of California Press.
- Moore, J.W. (2015). *Capitalism in the Web of Life*. London: Verso.
- Moore, J.W. (2011). Transcending the Metabolic Rift: A Theory of Crises in the Capitalist World-ecology. *The Journal of Peasant Studies*, 38(1): 1-46.
- Mortimer, R. (1972). *The Indonesian Communist Party and Land Reform 1959-1965* (Monash Paper on Southeast Asia – No. 1). Clayton: Centre of Southeast Asian Studies of Monash University.
- MPWH. (2016). *Environmental and Social Management Framework of National Slum Upgrading Program*. Jakarta: MPWH.
- Nasional.kontan.co.id. (2016). *Mekar Perkasa Gugat PKPU Sweet Indolampung*. <http://nasional.kontan.co.id/news/mekar-perkasa-gugat-pkpu-sweet-indolampung> (last accessed 29 May 2017).
- NCICD Master Plan. (2014). *Master Plan National Capital Integrated Coastal Development*. Jakarta: Coordinating Ministry for Economic Affairs, Special Capital Region of Jakarta, National Development Planning Agency, Ministry of Public Work, and Government of Netherlands. <http://en.ncicd.com/news/downloads/> (last accessed 25 February 2015).
- Nedeco. (1973). *Masterplan for Drainage and Flood Control of Jakarta*. Jakarta: Republic of Indonesia and Kingdom of the Netherlands.

- Neumann, R.P. (2009). Political Ecology: Theorizing Scale. *Progress in Human Geography*, 33(3): 398-406.
- Neumann, R.P. (2010). Political Ecology II: Theorizing Region. *Progress in Human Geography*, 34(3): 368-374.
- Neumann, R.P. (2011). Political Ecology III: Theorizing Landscape. *Progress in Human Geography*, 35(6): 843-850.
- News.detik.com. (2017) .Anies Usul Vertical Drainage Atasi Banjir, Ahok Berkukuh Normalisasi. 17 Februari. Available at: <https://news.detik.com/berita/d-3424984/anies-usul-vertical-drainage-atasi-banjir-ahok-berkukuh-normalisasi>; accessed at 02.04.2018
- News.detik.com. (2017). *Kasus NJOP Pulau Reklamasi Disidik, Polri Cari Pelaku*. <https://news.detik.com/berita/d-3719731/kasus-njop-pulau-reklamasi-disidik-polri-cari-pelaku> (last accessed 13 January 2018).
- Nicholls, R.J. Lincke, D., Hinkel, J., Brown, S., Vafeidis, A.T., Meyssignac, B., Hanson, S.E., Merkens, J. and Fang, J. (2021). A Global Analysis of Subsidence, Relative Sea-level Change and Coastal Flood Exposure. *Nat. Clim. Chang*, 11: 338–342.
- Nooteboom, G. (2019). Understanding the Nature of Rural Change: The Benefits of Migration at the (Re)creation of Precarity for Men and Women in Rural Central Java, Indonesia. *TRaNS: Trans -Regional and -National Studies of Southeast Asia*, 7(1): 113-133.
- O’Callaghan, C. (2018). Planetary Urbanization in Ruins: Provisional Theory and Ireland’s Crisis. *Environment and Planning D: Society and Space*, 36(3): 420-438.
- Octavianti, T. and Charles, K. (2018). Disaster Capitalism? Examining the Politicisation of Land Subsidence Crisis in Pushing Jakarta's Seawall Megaproject. *Water Alternatives*, 11(2): 394-420.
- Octavianti, T. and Charles, K. (2019). The Evolution of Jakarta’s Flood Policy Over the Past 400 Years: The Lock-in of Infrastructural Solutions. *Environment and Planning C: Politics and Space*, 37(6): 1102-1125.
- Ortega, A.A.C. (2016). Manila’s Metropolitan Landscape of Gentrification: Global Urban Development, Accumulation by Dispossession, and Neoliberal Warfare Against Informality. *Geoforum*, 70:35–50.
- Oswin, N. (2018). Planetary Urbanization: A View from Outside. *Environment and Planning D: Society and Space*, 36(3):540-546.
- Oswin, N. and Pratt, G. (2021) Critical Urban Theory in the ‘Urban Age’: Ruptures, Tensions, and Messy Solidarities. *Int. J. Urban Reg. Res.*, 45: 585-596.

- Padawangi, R. (2008). *People's Places: Protests and the Making of Urban Public Spaces in Jakarta*. PhD dissertation, Loyola University Chicago.
- Padawangi, R. (2011). The Right to Flood-free Homes: Urban Floods, Spatial Justice and Social Movements in Jakarta. In: Brun, A.G., Low, B.L., Rosemann, J. and Widodo, J. (eds.) *Global Visions: Risks and Opportunities for the Urban Planet*. Singapore: Centre for Advance Studies in Architecture, National University of Singapore, pp. 199-211.
- Padawangi, R. (2020). Questioning Normalcy: Rethinking Urbanisation, Development and Collective Action through the COVID-19 Moment. Available at: <https://lseac.medium.com/questioning-normalcy-rethinking-urbanisation-development-and-collective-action-through-the-3a3fc1a873f0> [accessed on 10 February 2022].
- Padawangi, R. and Douglass, M. (2015). Water, Water Everywhere: Toward Participatory Solutions to Chronic Urban Flooding in Jakarta. *Pacific Affairs*, 88(3): 517–550.
- Papanek, G.F. (1975). The Poor of Jakarta. *Economic Development and Cultural Change*, 24(1): 1–27.
- Pawitan, H. and Sunarti, E. (2013). Penyusutan Kapasitas Resapan Puncak. *Majalah Tempo*, 28 January–3 February.
- PDAM Kebumen. (2017). *Kebumen Municipality Water Company Report* (unpublished). Kebumen: PDAM Kebumen.
- Peake, L., Patrick, D., Reddy, R.N., Tanyildiz, G.S., Ruddick, S. and Tchoukaleyska, R. (2018). Placing Planetary Urbanization in Other Fields of Vision. *Environment and Planning D: Society and Space*, 36(3): 374–386.
- Peluso, N. L. (1993). Coercing Conservation?: The Politics of State Resource Control. *Global environmental change*, 3(2): 199-217.
- Peluso, N., Afif, S. and Rachman, N.F. (2008). Claiming the Grounds for Reform: Agrarian and Environmental Movements in Indonesia. *Journal of Agrarian Change*, 8(2-3): 377-407.
- Peluso, N.L. (1988). *Rich Forest, Poor People, and Development: Forest Access Control and Resistance in Java*. PhD dissertation, Cornell University.
- Peluso, N.L. (2011). Emergent Forest and Private Land Regimes in Java. *Journal of Peasant Studies*, 38(4): 811–836.
- Peluso, N.L. and Purwanto, A.B. (2018). The Remittance Forest: Turning Mobile Labor into Agrarian Capital. *Singapore Journal of Tropical Geography*, 39(1): 6–36.

- Peluso, N.L. and Vandergeest, P. (2001). Genealogies of the Political Forest and Customary Rights in Indonesia, Malaysia, and Thailand. *The Journal of Asian Studies*, 60(3): 761–812.
- Peluso, N.L. and Vandergeest, P. (2020). Writing Political Forests. *Antipode*, 52: 1083–1103.
- Pemerintah Daerah Khusus Ibukota Jakarta. (1965). *Rencana Induk Jakarta 1965-1985*. Jakarta: Pemprov DKI Jakarta.
- Perhutani. (2015). *Revisi Rencana Pengaturan Kelestarian Hutan Kelas Perusahaan Pinus Kesatuan Pemangku Hutan Kedu Selatan untuk Periode 2016 s/d 2023 dan Lampiran PDE-2*. Yogyakarta: Perhutani.
- Perhutani. (2019). *Profile Perum Perhutani 2019*. Jakarta. Accessed 22 June 2020. https://drive.google.com/file/d/15G_Pudd0q5WiN0i-b8VUb1k90Vb8yEPR/view.
- Pincus, J. (1996). *Class, Power and Agrarian Change: Land and Labour in Rural West Java*. NY: ST. Martin Press, Inc.
- Poerbandono, Julian, M.M. and Ward, P.J. (2014). Assessment of the Effects of Climate and Land Cover Changes on River Discharge and Sediment Yield, and an Adaptive Spatial Planning in the Jakarta Region. *Natural Hazards*, 73(2): 507–530.
- Pratt, G. (2018). One Hand Clapping: Notes Towards a Methodology for Debating Planetary Urbanization. *Environment and Planning D: Society and Space*, 36(3):563-569.
- Properti.kompas.com. (2010). Hendro Gondokusumo: Intiland Pionir Reklamasi di Asia Tenggara. *Properti.kompas.com*, February 16, 2010. Accessed September 18, 2018. URL: <https://properti.kompas.com/read/2010/02/16/22235623/Hendro.Gondokusumo.Intiland.Pionir.Reklamasi.di.Asia.Tenggara>.
- PT THI. (2015). *Analisis Dampak Lingkungan Hidup (Andal)*. Jakarta: PT THI.
- Putri, P.W. (2019). Sanitizing Jakarta: Decolonizing Planning and Kampung Imaginary. *Planning Perspectives*, 34 (5): 805-825.
- Putri, P.W. (2020). Insurgent Planner: Transgressing the Technocratic State of Postcolonial Jakarta. *Urban Studies*, 57(9): 1845-1865.
- Rachman, N. F. (2013). Rantai Penjelaras Konflik-konflik Agraria yang Kronis, Sistemik, dan Meluas di Indonesia. *Bhumi*, 37(Tahun 12): 1-14.
- Rachman, N.F. (1999). *Petani & Penguasa: Dinamika Perjalanan Politik Agraria Indonesia*. Yogyakarta: Insist Press, KPA dan Pustaka Pelajar.
- Rademacher, A.M. (2011). *Reigning the River: Urban Ecologies and Political Transformation in Kathmandu*. Durham and London: Duke University Press.

- Ramadhan, A.M. and Hutasoit, L. (2008). Contribution of Groundwater Abstraction to Land Subsidence in Jakarta Area. In Delinom, R., Soedjatmiko, B., Riyanto, A. and Hehanusa, P.E. (eds.) *Groundwater Management and Related Water Resources Issues in the Southeast Asia and East Asia Region*. Jakarta: Indonesia Institute of Science, p. 185-192.
- Ranganathan, M. (2015). Storm Drains as Assemblages: The Political Ecology of Flood Risk in Post-colonial Bangalore. *Antipode*, 47(5): 1300-1320.
- Rappler.com. (2016). *Ketika Reklamasi Bukan Cuma Masalah Jakarta*. <http://www.rappler.com/indonesia/131034-penolakan-tambang-pasir-ilegal-banten> (last accessed 26 May 2017).
- Reddy, R.N. (2018). The Urban Under Erasure: Towards a Postcolonial Critique of Planetary Urbanization. *Environment and Planning D: Society and Space*, 36(3): 529–539.
- Redfren, W.A. (2010). *Sukarno's Guided Democracy and the Takeovers of Foreign Companies in Indonesia in the 1960s*. PhD dissertation, The University of Michigan.
- Remondi, F., Burlando, P. and Vollmer, D. (2015). Exploring the Hydrological Impact of Increasing Urbanization on a Tropical River Catchment of the Metropolitan Jakarta, Indonesia. *Sustainable Cities and Society*, 20: 210-221.
- Ribot, J.C. and Peluso, N.L. (2003). A Theory of Access. *Rural Sociology* 68(2): 153-181.
- Rmol.co. (2011). Walikota Solo: Kelihatannya Nggak Sulit-sulit Amat Atasi Macet dan Banjir Jakarta. 28 Juni. Available at: <http://www.rmol.co/read/2011/06/28/31483/Walikota-Solo:-Kelihatannya-Nggak-Sulit-sulit-Amat-Atasi-Macet-dan-Banjir-Jakarta->; accessed at 02.04.2018
- Robbins, P. (2012). *Political Ecology*. Second edition. West Sussex: John Wiley & Sons.
- Robinson, G.B. (2018). *The Killing Season: A History of the Indonesian Massacre, 1965-66*. Oxford: Princeton University Press.
- Robison, R. (1986[2009]). *Indonesia: The Rise of Capital*. Jakarta: Equinox Publishing.
- Robison, R. and Hadiz, V. (2004). *Reorganising Power in Indonesia: The Politics of Oligarchy in an Age of Markets*. Taylor & Francis e-Library.
- Rossa, J. (2006). *Pretext for Mass Murder: The September 30th Movement and Suharto's Coup d'État in Indonesia*. Madison: The University of Wisconsin Press.
- Rukmana, D. (2008). The Growth of Jakarta Metropolitan Area and the Sustainability of Urban Development in Indonesia. *Journal of Environmental, Cultural, Economic & Social Sustainability*, 4: 99-105.

- Rukmana, D. (2013). Peripheral Pressures. In Grigoryan, Y. (Curator) *Archeology of the Periphery*. Available at: http://issuu.com/mosurbanforum/docs/archaeology_of_the_periphery/9?e=8566399/6685652. [Accessed March 3, 2015]. Moscow: Moscow Urban Forum. p. 162-171.
- Rukmana, D. (2015). The Change and Transformation of Indonesian Spatial Planning After Suharto's New Order Regime: The Case of the Jakarta Metropolitan Area. *International Planning Studies*, 20(4): 350–370.
- Rusdiyanto, E. and Pratomo, H. (2007). Kualitas Tanah, Air Tanah, dan Vegetasi Pada Lahan Reklamasi Pantai Mutiara, Jakarta Utara. *Jurnal Matematika, Sains, dan Teknologi*, 8 (2):126–138.
- Saguin, K. (2017). Producing an Urban Hazardscape Beyond the City. *Environment and Planning A*, 49(9): 1968–1985.
- Saitluanga, B.L. (2017). Vertical Differentiation in Urban Space: A Case of Aizawl City. *Singapore Journal of Tropical Geography*, 38: 216– 228.
- Sangadji, A. (2021). State and Capital Accumulation: Mining Industry in Indonesia. PhD dissertation, York University.
- Sangaji, A. (2019). Akumulasi Primitif: Pengalaman Industri Pertambangan di Indonesia. *Prisma*, 38(3): 52-61.
- Saputra, E. (2019). Land Subsidence as a Sleeping Disaster: Case Studies from Indonesia. PhD dissertation, Utrecht University.
- Satterthwaite, D. (2003). The Links between Poverty and the Environment in Urban Areas of Africa, Asia, and Latin America. *Annals of the American Academy of Political and Social Science*, 590(1): 73–92.
- Save Jakarta Bay Coalition. (2016). *Gugatan Tata Usaha Negara Perkara Nomor 14/G/LH/2016 Reklamasi Pulau F*. Unpublished manuscript.
- Savirani, A. and Aspinall, E. (2018). Adversarial Linkages: The Urban Poor and Electoral Politics in Jakarta. *Journal of Current Southeast Asian Affairs*, 3: 3–34.
- Savitri, A.L. and Adriyanti, D. (2018). The Demise of Emancipatory Peasant Politics? Indonesian Fascism and the Rise of Islamic Populism. *ERPI 2018 International Conference – Authoritarian Populism and the Rural World*. Available at: https://www.iss.nl/sites/corporate/files/2018-03/ERPI%20CP%2069_Savitri%26Adriyanti.pdf (last accessed on 5 February 2022).
- Schindler, S. (2017). Towards a Paradigm of Southern Urbanism. *City*, 21(1): 47–64.
- Schmid, C. (2018). Journeys through Planetary Urbanization: Decentering Perspectives on the Urban. *Environment and Planning D: Society and Space*, 36(3):591-610.

- Schramm, S. (2016). Flooding the Sanitary City. *City*, 20(1): 32–51.
- Selolwane, O. (1980). Colonization by Concession: Capitalist Expansion in the Bechuanaland Protectorate. 1885-1950. *Pula: Botswana Journal of African Studies*, 2(1): 74-124.
- Sheppard, B. (2006). *Condemned Communities: Forced Eviction in Jakarta*. *Human Right Watch report*, 18(10) C.
- Sheppard, E. (2018). Globalizing Capitalism's Raggedy Fringes: Thinking through Jakarta. *Area Development and Policy*, 4(1): 1-27.
- Sidik, A.J., Kusnadi, A., Budiman, Hidayat, D., Margono, G., Hermawan, Lami, Manulang, F., Salsabila, Ni'mah, N., Jumiati, S., Sugiyono, Supartono, Samsuri, and Muryanti. (2015). *Buruh Menuliskan Perlawanannya*. Jakarta dan Yogyakarta: LIPS dan Tanah Air Beta.
- Simanjuntak, I., Frantzeskakib, N., Enserika, B. and Ravesteijn, W. (2012). Evaluating Jakarta's Flood Defence Governance: The Impact of Political and Institutional Reforms. *Water Policy*, 14 (4): 561-580.
- Simone, A. (2014). *Jakarta, Drawing the City Near*. Minneapolis: University of Minnesota Press.
- Simpson, B.R. (2008). *Economists with Guns: Authoritarian Development and U.S.-Indonesian Relations, 1960-1968*. Stanford: Stanford University Press.
- Siscawati, M. (2014). Masyarakat Adat dan Perbutan Penguasaan Hutan. *Wacana*, 33 (Tahun XV): 3– 23.
- SM. (2020). *Mukadimah*. Semarang: SM.
- Smith, N. (1984[2008]). *Uneven Development: Nature, Capital, and the Production of Space* (3rd edition). London: The University of Georgia Press.
- Smith, N. (1992). Geography, Difference and the Politics of Scale. In Doherty, J., Graham, E. and Malek, M. (eds.) *Postmodernism and the Social Sciences*. New York: St. Martin's Press, pp.57-79.
- Smith, N. (1993). Homeless/global: Scaling Places. In Bird, J., Curtis, B., Putnam, T., Robertson, G. and Tickner, L. (eds.) *Mapping the Futures: Local Cultures, Global Changes*. London: Taylor & Francis e-Library, pp.87-120.
- Smith, N. (1995). Remaking Scale: Competition and Cooperation in Prenational and Postnational Europe. In Batten, D.F., Fischer, M.M., Hewings, G.J.D., Nijkamp, P. and Snickars, F. (eds.) *Advance in Spatial Science: Competitive European Peripheries*. Berlin: Springer, pp.59-74.

- Smith, N. (1996). *The New Urban Frontier: Gentrification and the Revanchist City*. London: Routledge.
- Smith, N. (2004). Scale Bending and the Fate of the National. In Sheppard, E. and McMaster, R.B. (eds.) *Scale and Geographic Inquiry: Nature, Society, and Method*. Oxford: Blackwell Publishing, pp.192-212.
- Smith, N. (2005). *The Endgame of Globalization*. New York: Routledge.
- Soekarno. (1975). *Indonesia Accuses! Soekarno's Defence Oration in the Political Trial of 1930* (edited by Paget, R.K.). Kuala Lumpur: Oxford University Press.
- Sopaheluwakan, J., Hantoro, W., Warsilah, H., Koropitan, A., Kusumawijaya, M., Adi, R.T., Patters, R. et al. (2017). *Makalah Kebijakan: Selamatkan Teluk Jakarta*. Jakarta: Rujak Centre for Urban Studies.
- Stehlik, D. (2004). From 'Snowball' to 'Rhizome': A Rethinking of Method. *Rural Society* 14(1): 36-45.
- STKS. (Unpublished). *Pertanian Perkotaan Terpadu*. Semarang: STKS.
- STKS/Serikat Tani Kota Semarang. (2021). *Modul II: Demokrasi Langsung, Demokrasi Ekologi Sosial*. Available at: <https://tanikotasemarang.files.wordpress.com/2021/01/modul-2-demokrasi-langsung-demokrasi-ekologi-sosial.pdf> [accessed 27 February 2021].
- Suharto. (1976). *Pidato Kenegaraan Presiden Republik Indonesia di Depan Sidang Dewan Perwakilan Rakyat 16 Agustus 1976*. Kompas, 18-8-1976 (Lampiran).
- Sultana, F. (2021). Political Ecology 1: From Margins to Center. *Progress in Human Geography* 45(1): 156-165.
- Suwandi, I. (2019). *Value Chains: The New Economic Imperialism*. New York: Monthly Review Press.
- Swyngedouw, E. (1996). The City as a Hybrid: On Nature, Society, and Cyborg Urbanization. *Capitalism Nature Socialism*, 7(2):65–80.
- Swyngedouw, E. (1997). Power, Nature, and the City. The Conquest of Water and the Political Ecology of Urbanization in Guayaquil, Ecuador: 1880-1990. *Environment and Planning A*, 29: 311-332.
- Swyngedouw, E. (2004). *Social Power and the Urbanization of Water: Flows of Power*. New York: Oxford University Press.
- Swyngedouw, E. (2006). Metabolic Urbanization: The Making of Cyborg Cities. In Heynen, N., Kaika, M. and Swyngedouw, E. (eds.) *In the Nature of Cities: Urban*

- Political Ecology and the Politics of Urban Metabolism*. New York: Routledge Taylor & Francis Group, pp.20-39.
- Swyngedouw, E. and Kaika, M. (2015). Urban Political Ecology. Great Promises, Deadlock...and New Beginnings? *Documents d'Anàlisi Geogràfica*, 60(3): 459-481.
- Syvitski, J.P.M., Kettner, A.J., Overeem, I., Hutton, E.W.H., Hannon, M.T., Brakenridge, G.R., Day, J., Vörösmarty, C., Saito, Y., Giosan, L. and Nicholls, R.J. (2009). Sinking Deltas Due to Human Activities. *Nature Geoscience*, 2: 681–686.
- Talan, J. P., Alghafari, M. I., Budiono, S. K. and Reza, M. (2020). *Tak Ada Rakyat dalam Omnibus Law/RUU Cipta Kerja: Sebuah Kertas Kerja*. Jakarta: Koalisi Rakyat untuk Hak atas Air (KRuHA).
- Tambunan, M.P. (2007). *Flooding Area in the Jakarta Province on February 2 to 4 2007*. Paper presentation in the 28th Asian Conference on Remote Sensing, 12-16 November 2007 at Putra World Trade Centre, Kuala Lumpur, Malaysia
- Tauchid, M. (1952[2009]). *Masalah Agraria Sebagai Masalah Penghidupan dan Kemakmuran Rakyat Indonesia*. Yogyakarta: STPN Press.
- Temple, G. (1975). Migration to Jakarta. *Bulletin of Indonesian Economic Studies*, 11(1): 76–81.
- Texier, P. (2008). Floods in Jakarta: When the Extreme Reveals Daily Structural Constraints and Mismanagement. *Disaster Prevention and Management*, 17(3): 358–372.
- Texier-Teixeira, P. and Edelblutte, E. (2017). Jakarta: Mumbai—Two Megacities Facing Floods Engaged in Marginalization Process of Slum Area. In K. Sudmeier-Rieux, Fernández, M., Penna, I. M., Joboyedoff, M. and Gaillard, J. C. (eds.), *Identifying Emerging Issues in Disaster Risk Reduction, Migration, Climate Change and Sustainable Sevelopment: Shaping Debates and Policies*. Switzerland: Springer, pp. 81-100.
- The Jakarta Post. (2018). *Indonesia Officially Controls 51.23 percent of Freeport shares: Jokowi*. Available at: <https://www.thejakartapost.com/news/2018/12/21/indonesia-officially-controls-51-percent-of-freeport-shares-jokowi.html> [accessed on 27/9/2021].
- The Jakarta Post. (2018a). *Sandiaga to Switch from Groundwater to Pipe Water at Private Residence*. *The Jakarta Post*, March 13. Accessed April 7, 2018. URL: <http://www.thejakartapost.com/news/2018/03/13/sandiaga-to-switch-from-groundwater-to-pipe-water-at-private-residence.html>.
- Tifa and Amrta Institute. (2013). *Pencurian Massal Air Tanah Jakarta 2013*. Jakarta: Tifa Foundation dan Amrta Institute.

- Trilaksono, N.J., Otsuka, S., Yoden, S., Saito, K. and Hayashi, S. (2011). Dependence of Model-simulated Heavy Rainfall on the Horizontal Resolution During the Jakarta Flood Event in January-February 2007. *SOLA*, 7: 193-196.
- Trotsky, L. (1930). *The History of the Russian Revolution (Volume 1)*. Marxist Internet Archive. Available at: <https://www.marxists.org/archive/trotsky/1930/hrr/>.
- Turner, M.D. (2014). Political Ecology I: An Alliance with Resilience? Progress in Human Geography, 38(4): 616-623.
- Tzaninis, Y., Mandler, R., Kaika, M. and Keil, R. (2020). Moving Urban Political Ecology Beyond the 'Urbanization of Nature'. *Progress in Human Geography*, 45(2): 229-252.
- Valkenburg, L. (2014). *Engineering Report*. Jakarta: Coordinating Ministry for Economic Affairs, Special Capital Region of Jakarta, National Development Planning Agency, Ministry of Public Work, and Government of Netherlands.
- van Bemmelen, R.W. (1949). *The Geology of Indonesia Vol. IA: General Geology of Indonesia*. The Hague: Government Printing Office.
- van Voorst, R. (2014). The Right to Aid: Perceptions and Practices of Justice in a Flood-hazard Context in Jakarta, Indonesia. *The Asia Pacific Journal of Anthropology*, 15(4): 339-356.
- van Voorst, R. (2015). Risk-handling Styles in a Context of Flooding and Uncertainty in Jakarta, Indonesia. *Disaster Prevention and Management*, 24(4): 484-505.
- van Voorst, R. and Hellman, J. (2015). One Risk Replaces Another: Floods, Eviction and Policies in Jakarta's Riverbank. *Asian Journal of Social Science*, 43: 786-810.
- van Voorst, R.S. (2013). *Get Ready for the Flood!: Risk-handling Styles in Jakarta, Indonesia*. PhD dissertation, University of Amsterdam.
- van Woerden, A., van de Watering, M., Hekman, A. and Braam, L. (2018). *Integrated Flood Safety Plan 2018*. Jakarta: Indonesia's Ministry of Public Work.
- Vandergeest, P. and Peluso, N.L. (2006a). Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 1. *Environment and History*, 12(1): 31-64.
- Vandergeest, P. and Peluso, N.L. (2006b). Empires of Forestry: Professional Forestry and State Power in Southeast Asia, Part 2. *Environment and History*, 12(4): 359-393.
- Vatikiotis, M.R.J. (2003). *Indonesian Politics Under Suharto: The Rise and Fall of the New Order* (third edition). New York: Taylor & Francis e-Library.
- Veesser, C. (2013). A Forgotten Instrument of Global Capitalism? International Concessions, 1870-1930. *The International History Review*, 35(5): 1136-1155.

- Vegliò, S. (2021) Postcolonizing Planetary Urbanization: Aníbal Quijano and an Alternative Genealogy of the Urban. *Int. J. Urban Reg. Res.*, 45(4): 663-678.
- Verstappen, H.T. (1953). *Djakarta Bay: A Geomorphological Study on Shoreline Development*. 'S-Gravenhage: Drukkerij Trio.
- Vu, T. (2010). *Paths to Development in Asia: South Korea, Vietnam, China, and Indonesia*. Cambridge: Cambridge University Press.
- Wade, M. (2018). Hyper-planning Jakarta: The Great Garuda and Planning the Global Spectacle. *Singapore Journal of Tropical Geography*, 40(1): 158-172.
- Wahyono, A. and Wardiat, D. (2012). Integritas Pelayanan Publik dalam Perizinan Pemanfaatan Air Bawah Tanah di DKI Jakarta. *Jurnal Masyarakat & Budaya*, 14(1): 99-126.
- Wang, C.M. (2020). Securing the Subterranean Volumes: Geometrics, Land Subsidence and the Materialities of Things. *Environment and Planning D: Society and Space*, 39(2): 218-236.
- Wannewitz, M. and Garschagen, M. (2020). Mapping the Adaptation Solution Space – Lessons from Jakarta for Other Coastal Cities. *Nat. Hazards Earth Syst. Sci.*, 21: 3285-3322. <https://doi.org/10.5194/nhess-2020-370>, in review, 2020.
- Warburton, E. (2016). Jokowi and the New Developmentalism. *Bulletin of Indonesian Economic Studies*, 52(3): 297–320.
- Ward, P.J., Marfai, M.A., Yulianto, F., Hizbaron, D.R. and Aerts, J.C.J.H. (2011). Coastal Inundation and Damage Exposure Estimation: A Case Study for Jakarta. *Nat Hazards*, 56: 899-916.
- Ward, P.J., Pauw, W.P., Van Buuren, M.W. and Marfai, M.A. (2012). Governance of Flood Risk Management in A Time of Climate Change: The cases of Jakarta and Rotterdam. *Environmental Politics*, 22(3): 518-536.
- White, B. (1977). *Production and Reproduction in a Javanese Village*. PhD dissertation, Columbia University.
- White, B. (1989). Problems in the Empirical Analysis of Agrarian Differentiation. In Gillian Hart, Andrew Turton, Benjamin White, Brian Fegan, and Lim Teck Ghee (eds.) *Agrarian Transformations: Local Processes and the State in Southeast Asia*. Berkley: University of California Press, pp. 15–30.
- White, B. (2015). Remembering the Indonesian Peasants' Front and Plantation Workers' Union (1945–1966). *The Journal of Peasant Studies*, 43(1): 1–16.
- White, B. (2018). Marx and Chayanov at the Margins: Understanding Agrarian Change in Java. *The Journal of Peasant Studies*, 45(5-6): 1108-1126.

White, G.F. (1942). Human Adjustment to Floods: A Geographical Approach to the Flood Problem in the United States (PhD dissertation). The University of Chicago.

Widyaningsih, A. and Van den Broeck, P. (2021). Social Innovation in Times of Flood and Eviction Crisis: The Making and Unmaking of Homes in the Ciliwung Riverbank, Jakarta. *Singapore Journal of Tropical Geography*, 42: 325-345.

Wijayanto, Rachbini, J.D., Ruslan, M. and Bakarudin, N.F. (2019). *Menyelamatkan Demokrasi (Outlook Demokrasi LP3ES)*. Jakarta: LP3ES.

Winarso, H. and Firman, T. (2002). Residential Land Development in Jabotabek, Indonesia: Triggering Economic Crisis? *Habitat International*, 26(4): 487–506.

Winters, J.A. (1991). *Structural Power and Investor Mobility: Capital Control and State Policy in Indonesia, 1965-1990*. PhD dissertation, University of Yale.

Yarina, L. (2018). Your Sea Wall Won't Save You: Negotiating Rhetorics and Imaginaries of Climate Resilience. *Place Journal*, March 2018. URL: <https://placesjournal.org/article/your-sea-wall-wont-save-you/?cn-reloaded=1> .

Yuliastuti, H. (2015). Komersialisasi Ruang Publik, Kasus Gelora Bung Karno Senayan. In Santoso, J. (ed.) *Transformasi Urban Metropolitan Jakarta: Adaptasi dan Pengembangan*. Jakarta: Urban Lab, Pusat Studi Metropolitan Universitas Tarumanegara, p. 43-50.

ANNEXES

Annex I: List of attended meetings

#	Date	Meeting	Location	Participants
1	January 26, 2016	Discussion on kampungs' community organizer training	Jakarta Legal Aid Foundation's (LBH Jakarta) office	Urban Poor Consortium, LBH Jakarta, Ciliwung Institute, Ciliwung Merdeka
2	January 26, 2016	Community meeting at Kampung Melayu	Ratna's house, Kampung Melayu Kecil 2	Ratna and Gugun
3	January 27, 2016	JRMK Secretariat	Muara Baru, North Jakarta	Member of JRMK, Sebaja (association of becak drivers), UPC
4	January 30, 2016	Community meeting at Kampung Melayu	Ratna's house, Kampung Melayu	5 women from Kampung Melayu, UPC
5	February 5, 2016	Workshop: Designing Kampung Pulo	Ciliwung Merdeka, Jatinegara	Ciliwung Merdeka, Yogyakarta Community Architect (Arkom), Bandung Architecture Sans Frontières/ASF, urban planners
6	February 5, 2016	Community meeting at Kampung Melayu	Kampung Melayu	6 women from Kampung Melayu, UPC
7	February 6, 2016	Workshop: Designing Kampung Pulo	Ciliwung Merdeka, Jatinegara	Ciliwung Merdeka, Yogyakarta Community Architect (Arkom), Bandung Architecture Sans Frontières/ASF, urban planners
8	February 9, 2016	Hearing Bidacara China class action	Central Jakarta Court	Central Jakarta Court

#	Date	Meeting	Location	Participants
9	February 19, 2016	Evaluation meeting of Jakarta Post's journalists live-in programme at Bukit Duri	Ciliwung Merdeka	Ciliwung Merdeka, Jakarta Post, UPC
10	February 21, 2016	Discussion of legal document against DKI government on Jakarta Bay reclamation project	Indonesian Centre for Environmental Law's (ICEL) office, Jl. Dempo 2 no. 21	Indonesian Traditional Fishermen Association (KNTI), LBH Jakarta, Student organization representatives from University of Indonesia, ICEL
11	February 26, 2016	Experts meeting on academic paper of Indonesian Water Law	Bina Desa, Jl. Saleh Abud No. 18-19	An FGD organized by People's Coalition for the Rights to Water (KRuHA)
12	March 2, 2016	Hearing Bidara Cina class action	Central Jakarta Court	People from neighborhood association (RW) 4 of Kampung Bidara Cina
13	March 4, 2016	Meeting at Solidaritas Perempuan/SP's (Women's Solidarity) office for campaign strategy of rejection to land reclamation	Jl Siaga II No, 34	KNTI, SP, LBH Jakarta, ICEL, Students group from Jakarta Islamic University/UIN (Kompak)
14	April 6, 2016	Workshop alternative housing	Ciliwung Merdeka, Bukit Duri	Ciliwung Merdeka, Marco Kusumawidjaja, People from RW 10 and 12 of Bukit Duri
15	April 7, 2016	Bidara Cina class action	Central Jakarta Court	Bidara Cina Law Suit and Anti-reclamation Law Suit by Save Jakarta Bay

#	Date	Meeting	Location	Participants
				Coalition group (The Indonesian Forum for the Environment /WALHI, LBH Jakarta, KNTI, ICEL)
16	April 28, 2016	Fishers community	Mouth of Ciujung River, Banten	Fishers, JJ Rizal, journalists, Sudirman Asun and Andy (Ciliwung Institute)
17	May 30, 2016	Koalisi Selamatkan Teluk Jakarta (Save Jakarta Bay Coalition)	LBH Jakarta	Indonesian Legal Aid Foundation /YLBHI, LBH-Jakarta, KNTI, Traditional Fishermen Association/KNT, University of Indonesia students, representative of fisher folks from Makassar, The Jakarta Post journalist
18	May 13, 2016	Focused Group Discussion (FGD)	Goethe House, Jakarta	Speakers: Muslim Muin, Ph.D, Alan Koropitan, Ph.D., Dr. Herdianto Wahyu Kustiadi, Ir. Bernardus Djonoputro, Prof. Dr. Henny Warsilah DEA, Hendro Sangkoyo, Dra. Francisia Saveria Sika Ery Seda, M.A., Ph.D, Rujak, SP, KNTI, LBH-Jakarta, Walhi.
19	May 25, 2016	Jakarta Pulih 2030	Cilosari 33	Kaka (eco-LAB), Gugun (UPC), Ayu (Tarumanegara University), Sri (Ciliwung Merdeka), Inne (Architect), Musdalifah (resident from Pasar Ikan

#	Date	Meeting	Location	Participants
				Kampong), Elisa (Rujak Centre for Urban Studies/Rujak), Nurhayati (JRMK), Anindita (Rujak), Bram (citizen)
20	Juli 15, 2016	Koalisi Selamatkan Teluk Jakarta	LBH-Jakarta	LBH-Jakarta, KNTI, KNT, Ciliwung Institute, ICEL, SEMAR UI
21	Juli 19, 2016	Court hearing on Bukit Duri case	Central Jakarta District Court	Bukit Duri citizens (around 25 persons)
22	Juli 22, 2016	Bukit Duri People Congress	Bukit Duri	Around 300 people
23	August 2, 2016	Court hearing on Bukit Duri case	Central Jakarta District Court	Around 50 people from Bukit Duri and beyond
24	August 8, 2016	Koalisi Selamatkan Teluk Jakarta	LBH-Jakarta	LBHJ, KNTI, SP, University of Indonesia students
25	November 9, 2016	Both Ends, Amsterdam	Both Ends' office	Both Ends, SOMO, Rachel (Harvard University)
26	May 5, 2017	Ciliwung Merdeka internal meeting	Ciliwung Merdeka, Bukit Duri Tanjakan 66B	Sandy, Vera, Yu Sing, Ivanna, Devil, and Sri
27	May 12, 2017	Forum Kampung Kota (FKK)	Ciliwung Merdeka, Jalan Kebon Pala	More than 30 members of FKK group
28	May 18, 2017	FKK	Apartemen Kalibata	10 persons, mostly students from University of Indonesia, Ami
29	May 23, 2017	Ministry of Maritime Affair	Ministry of Maritime Affair Office	Infrastructure Division coordination meeting

#	Date	Meeting	Location	Participants
30	June 7, 2017	Ministry of Public Works	Ministry of Public Works office	National Plan Agency (Bappenas), Ministry of Public Works, Ministry of Maritime Affairs, Deltares, Water consultants from South Korea, scientists from Indonesia Institute of Sciences (LIPI).

Annex II: List of interviews

#	Name	Time	Location	Purpose	Affiliation
1-100	Urban poor at 5 flood-affected kampongs in Jakarta	May-September 2016	Jalan Tongkol, Kampung Lodan, Rusunawa Waduk Pluit, and Kampung Tebu, and Bukit Duri	To understand place of origin, reason to move to Jakarta	Mostly JRMK/ UPC
101-130	Kedungwringin villagers	September -October 2017	Kedungwringin, Kebumen, Central Java	To understand people's motivation to move to the city	Kedungwringin villagers
131	JJ Rizal	April 26, 2016	Komunitas Bambu Office, Depok	To get know about Batavia and Betawi	Owner of Komunitas Bambu publisher, historian
132	Abdul Kodir	May 16, 2016	Ciliwung Institute office	Ciliwung River	Ciliwung Institute
133	Sudriman Asun	May 16, 2016	Ciliwung Institute office	Ciliwung River	Ciliwung Institute
134	Jan Jaap Brinkman	May 24, 2016	Deltares' room at Ministry of Public Work	To understand Deltares' activities in Jakarta	Deltares
135	Fathin, Juen, and Dika (German, English, and Philosophical Department students at	July 23, 2016	Political Science canteen, Universitas Indonesia, Depok	Students' involvement in Koalisi Selamatkan Teluk Jakarta	Universitas Indonesia

#	Name	Time	Location	Purpose	Affiliation
	the University of Indonesia)				
136	Jan Sopaheluwan	August 1, 2016	Indonesia Institute of Science (LIPI)'s office in Bogor	Jakarta's groundwater context	LIPI
137	Andika	August 7, 2016	DKI Jakarta Water Agency office	To understand agency's flood, groundwater, and land subsidence monitoring activities	DKI Jakarta Water Agency
138	Neltje Goorden	October 31, 2016	Deltares' office in Delft	To understand Deltares' Jakarta groundwater model	Deltares
139	Gugun Muhammad	May 24, 2017	Kampung Tongkol	To understand history of Kampung Tongkol	UPC
140	Ikhwan Maulani	May 29, 2017; June 9, 2017	DKI Jakarta Industry and Energy Agency Office	To understand agency's groundwater monitoring activities	Engineer at DKI Jakarta Industry and Energy Agency
141	Lambok Hutasoit	June 3, 2017	Geological Engineering Department, Bandung Institute of	To understand land subsidence	ITB

#	Name	Time	Location	Purpose	Affiliation
			Technology (ITB)		
142	Sriprobo Sudarmo and Rambat Sakwan	5 June 2017	World Bank (WB) office, Jakarta	To understand JUFMP	WB officers
143	Peter Letitre	June 6, 2017	Deltares' room at Ministry of Public Work, Jakarta	To understand Deltares' activities in Jakarta	Deltares
144	Mohammad Irfan Saleh	June 21, 2017	Bappenas (Ministry of National Development and Planning) office	About Bappenas' activities in reviewing 2014 NCICD Master Plan	Bappenas
145	Rik	June 21, 2017	Bappenas office	About Bappenas' activities in reviewing 2014 NCICD Master Plan	Triple-A (Bappenas consultant)
146	Erlan Hidayat	June 21, 2017	PAM JAYA office	To understand drinking water supply in Jakarta	PAM Jaya Director
147	Berto Darmo Poedjo	June 15, 2017	Senayan Special Area management office	To understand management of Senayan Special Area	General Manager of Senayan Special Area
148	Darmaji	September 20, 2017	Sempor Dam office	To understand Sempor Dam	Engineer of Sempor Dam
149	Suparno	September 27, 2017	PDAM Kebumen office	To understand how the company get water	PDAM Kebumen director of finance

#	Name	Time	Location	Purpose	Affiliation
150	Tugimin	September 27, 2017	Kedungwringin	To understand Perhutani in Kedungwringin	Perhutani officer at Kedungwringin
151	Candra Musi	October 19, 2017	Perhutani office, Purworejo	To understand Perhutani's activities at Kedungwringin	Perhutani Purworejo
152	Untung	Several times in September-October 2017	Host in Kedungwringin	To understand village's history	Villager
153	Moh Sobirin	January 15th, 2018	WhatsApp and several other conversations	To understand context of cement mining in Central Java	Director of Desantara Foundation
154	Yvonne	Marc 21 2017	Berlin	To understand Central Java peasant protest in Germany	Watch Indonesia
155	Anett Keller	March 22th, 2017	Bremen	To understand Central Java peasant protest in Germany	Watch Indonesia

Annex III: Semi-structured interview form in Jakarta

Number/#: _____

Administer informed consent. Only if the subject agrees to participate, then proceed to questionnaire. Fill the blank; √ (tick) proper answer.

Section 1: General information

Date of interview (dd/mm/yyyy)		
Address		
Location (describe the location, if re-visit is needed)		
Name		
Place and date of birth		
Sex	<input type="checkbox"/> Female	<input type="checkbox"/> Male
Job		
Income (IDR)		
This house is	<input type="checkbox"/> Owner: (if possible look the document)	

	<input type="checkbox"/> Rent; Rp. _____ month/year. Owner: _____		
Type of house	<input type="checkbox"/> Permanent	<input type="checkbox"/> Semi-permanent	<input type="checkbox"/> Other: _____
Number of family member living in this house	<input type="checkbox"/> Single family : _____ person <input type="checkbox"/> Multiple family: _____ families of _____ person		
What is the highest level of education of person in this house?	<input type="checkbox"/> None <input type="checkbox"/> Elementary school <input type="checkbox"/> Junior high school <input type="checkbox"/> Senior high school <input type="checkbox"/> University <input type="checkbox"/> Other: _____ _____		
Who own that highest level of education?	<input type="checkbox"/> Father <input type="checkbox"/> Mother <input type="checkbox"/> Kid <input type="checkbox"/> Other: _____ _____		
Land claim	<input type="checkbox"/> legal housing area with land claim of: _____ <input type="checkbox"/> No land claim		
Are you living in this house permanently?	<input type="checkbox"/> No, where else do you live: _____ <input type="checkbox"/> Yes		

Section 2: Mobility

How long have you been living in this house/area	Month/year
Where did you live before?	
What is your hometown?	
What is your parents' hometown? (If respondent came from outside Jakarta, continue to the next question)	
When you or your parents move to Jakarta?	
Why you or your parents move to Jakarta?	<input type="checkbox"/> Looking for job <input type="checkbox"/> To advance education <input type="checkbox"/> Following family <input type="checkbox"/> Other: _____
How much land (rice field and moor) did you or your parents had before move to Jakarta (in hectare)?	<input type="checkbox"/> None <input type="checkbox"/> 0.1-0,5 <input type="checkbox"/> 0,5-1 <input type="checkbox"/> 1-2 <input type="checkbox"/> 2 +

Annex IV: Semi-structured interview form in Kedungwringin

Number/#: _____

Administer informed consent. Only if the subject agrees to participate, then proceed to questionnaire. Fill the blank; ✓ (tick) proper answer.

Section 1: General information

Time of interview (dd/mm/yyyy)		
Village	Kedungwringin	
Hamlet		
Neighborhood		
Sub-neighborhood		
Name		
Place and date of birth		
Sex	<input type="checkbox"/> Female	<input type="checkbox"/> Male
This house	<input type="checkbox"/> Total area of land: <input type="checkbox"/> Total area of house: <input type="checkbox"/> Type of land claim and and owner name:	
Family member	How may person? (Name, sex, age, job, and education level)	

Section 2: Mobility of the interviewee

Education (when, what level, and where)	
Mobility/ <i>merantau</i> (where, when, and job)	
Live (when and where)	

Section 3: Land owned by the household

Rice field (total area, type, and the written owner on the land claim)	
Moor/ <i>tegalan</i> (total area, type, and the written owner on the land claim)	

Annex V: List of presentations

#	Organizer/conference	Time	Place	Topic
1	University of Amsterdam/UvA (PhD days)	19 June 2015	UvA	Managing Floods in Jakarta: Urbanizing people, water, and city
2	CERES Research School for International Development (PhD course)	15 July 2015	CERES	Post-authoritarian socionatural dynamics of flood governance in Jakarta: Urbanizing people, water, and city
3	IHE-Delft, Institute for Water Education/IHE-Delft (PhD Symposium)	28 September 2015	IHE-Delft	Urbanizing people, water and city: A political ecology of urbanization study on floods governance in Jakarta
4	IHE-Delft (PhD proposal defense)	15 December 2015	IHE-Delft	“Uneven Development”: politicizing flood events, urbanizing infrastructural interventions and connecting splintered social movement in (post-) New Order Indonesia
5	Indonesia Institute of Sciences (LIPI)	7 June 2016	LIPI’s building, Jakarta	Uneven Development: Politicizing flood events and urbanizing infrastructural interventions in (post-) New Order Jakarta
6	University of Paramida	8 June 2016	University of Paramadina, Jakarta	<i>Pertanyaan-pertanyaan untuk NCICD</i> (Questions for NCICD)

#	Organizer/conference	Time	Place	Topic
7	Epistema Institute	13 July 2016	Epistema Institute's office, Jakarta	<i>Politik Ekologi Urbanisasi: Menghubungkan banjir Jakarta dengan perubahan agrarian dan industri ekstraktif di Indonesia</i>
8	Wageningen University & Research Centre and School of Oriental and African Studies (SOAS), University of London. International Conference on Political Ecologies of Conflict, Capitalism and Contestation: On the meaning of nature of contested 21st century political ecologies.	7 – 9 July 2016	Wageningen	Operationalizing a Political Ecology of Urbanization: Floods in Jakarta (with Michelle Kooy and Margreet Zwarteven).
9	STF Driyarkara	29 August 2016	STF Driyarkara, Jakarta	<i>Pertanyaan-pertanyaan untuk NCICD</i> (Questions for NCICD)
10	Both Ends	9 November 2016	Both Ends' office, Amsterdam	Jakarta's flood infrastructure
11	IHE-Delft (2 nd year report)	22 December 2016	IHE-Delft	“Uneven Development”: politicizing flood events and urbanizing infrastructural interventions in (post-) New Order Indonesia

#	Organizer/conference	Time	Place	Topic
12	Indonesian Coordinating Ministry of Maritime Affairs	23 Mei 2017	Ministry's office, Jakarta	<i>Penurunan Tanah Jakarta: Disebabkan oleh ekstraksi air tanah atau pembebanan bangunan?</i> (Jakarta's Land Subsidence: caused by groundwater extraction or weight of buildings?)
13	Alliance for Saving Nature (ARuPA)	15 November 2017	ARuPA's office, Yogyakarta	Uneven Urbanization: Politicizing flood events and infrastructures in (Post-) New Order Jakarta
14	Rujak Center for Urban Studies	17 November 2017	Rujak's office, Jakarta	The Spiral of Socioecological Crisis and Fix: Land Subsidence & Flood Infrastructure in Jakarta
15	IHE-Delft (3 rd year evaluation)	15 January 2018	IHE-Delft	Uneven Urbanization: Floods, infrastructure and resistances in (post-) New Order Indonesia
16	Interuniversity Programme in Water Resources Engineering/IUPWARE (alumni event)	26 February -1 March 2018	Cuenca, Ecuador.	The sinking Jakarta: The socioecological crisis of land subsidence and the flood infrastructure fix
17	IHE-Delft (PhD Symposium)	1 October 2018	IHE-Delft	The crisis of urbanization: Overproduction-

#	Organizer/conference	Time	Place	Topic
				underproduction in the sinking Jakarta
18	SENSE Research School (PhD course)	18 October 2018	Hostel Soest	Uneven urbanization: Connecting flows of water to flows of labour and capital through Jakarta's flood infrastructure
19	Water Management Team (Tim Tata Kelola Air) of DKI Jakarta Provincial Government	6 December 2018	DKI Jakarta Government office	Land subsidence, groundwater extraction and flooding in Jakarta
20	The Journal of Peasant Studies Scholar-Activist Workshop-Writeshop	1-7 July, 2019	China Agricultural University, Beijing	Situated urbanization: the country and the city in the (post-) New Order Indonesia. With Michelle Kooy, Yves van Lyenseele, Margreet Zwarteveen, and Ari Ujianto.
21	Rujak Center for Urban Studies	18 April 2020	Online Rujak and Antipode Urbanist School	Near-South Urbanization: Connecting urban eviction to rural land dispossession in (post-) New Order Indonesia
22	UvA (PhD Day)	9 June 2020	Online	Near-South Urbanization: Flows of People, water and capital in and beyond (post-) New Order Jakarta
23	Coastal People Assembly	3 September 2020	Webinar	Urbanization fix: Capital accumulation through Jakarta's flood infrastructure

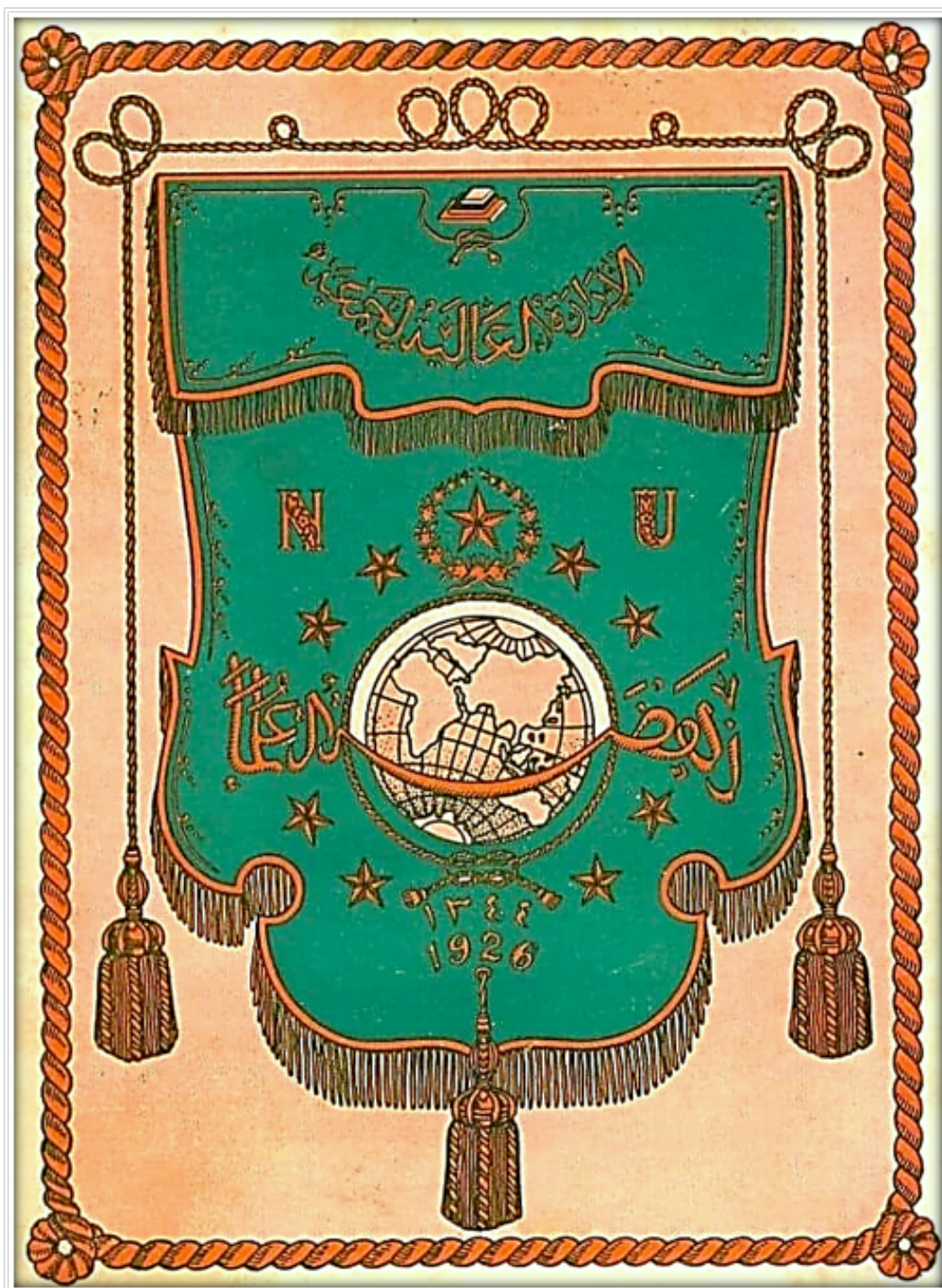
#	Organizer/conference	Time	Place	Topic
24	LBH Jakarta	12 October 2020	Online Focused Group Discussion	<i>Tata Kelola Banjir Jakarta</i> (Jakarta's flood governance)
25	IHE-Delft, Institute for Water Education	12 November 2020	Online Water Management and Governance Course (Case Study: Jakarta)	Jakarta's urbanization: flows of people, land conversion, and infrastructure development
26	DKI Jakarta Governor's Team for Accelerated Development (TGUPP)	21 November 2020	Webinar	Jakarta's urbanization: flows of people, land conversion, and infrastructure development
27	Mongabay	12 March 2021	<i>Youtube</i> Podcast	Jakarta's flood
28	International Relations Department, Gadjah Mada University	22 April 2021	<i>Youtube</i> Podcast	Indonesia's urban flood governance
29	Conference on People, Power, Politics, Pandemics, and Other Perils in Southeast Asia. Organized by Canadian Council for Southeast Asian Studies	21-24 October 2021.	Zoom	Extended agrarian questions in concessionary capitalism: The ' <i>Kaum Miskin Kota</i> ' Jakarta; with Noer Fauzi Rachman.

LIST OF TABLES

Table 2-1: Excerpts to show how the three moments are depicted in UPE and PEU. ...	25
Table 2-2: Harvey's theory of AbD.....	28
Table 2-3: Unevenness under capitalism.....	30
Table 2-4: Sociospatial dynamics of urbanization.	32
Table 2-5: Human and non-human roles in surplus-value production.	36
Table 3-1: Structural agrarian conflicts.....	53
Table 7-1: The co-constitutive relations of sociospatial and socionatural moments and the uneven outcomes.	116

LIST OF FIGURES

Figure 1-1: Cartoon of Tempo Magazine.....	5
Figure 1-2: Groundwater extraction and number of deep wells.....	9
Figure 1-3: 1770-1965 expansion of European-style or modern-planned.....	10
Figure 3-1: Migration to Jakarta.....	56
Figure 4-1: Interviewees' locations in Jakarta and the Kedungwringin.....	68
Figure 5-1: Jakarta's land subsidence (1997-2005).	85
Figure 5-2: Development in Senayan area.	86
Figure 6-1: Maps and locations of many areas.....	98



ABOUT THE AUTHOR

Born and grown up in the Indonesia's 'outer' island of Sumatra, Bosman moved to Yogyakarta (central part of Java) to continue his education in Geological Engineering, Gadjah Mada University, Indonesia (2000-5), and shortly after his graduation he joined mining company as exploration geologist for two years. He gained master in Water Resources Engineering from VU Brussels and KU Leuven, Belgium (2010-2). He enriched his understanding about Indonesia's social movement through involvement both with urban poor and agrarian movements.



JOURNALS PUBLICATIONS

Batubara, B., Kooy, M. and Zwarteven, M. (under revision, submitted on 31 October 2021). Politicising Land Subsidence in Jakarta: How Land Subsidence is the Outcome of Uneven Sociospatial and Socionatural Processes of Capitalist Urbanization. *Geoforum*.

Contributions: Bosman Batubara planned the research, collected and analysed data. Margreet Zwarteven and Michelle Kooy supervised the work. Bosman Batubara drafted the article. Michelle Kooy and Margreet Zwarteven improved the draft – in terms of theory, analysis, and language – through review cycle.

Batubara, B. and Rachman, N.F. (Accepted). Extended Agrarian Question in Concessionary Capitalism: Jakarta's *Kaum Miskin Kota*. *Agrarian South: Journal of Political Economy*.

Contributions: Bosman Batubara planned the research, collected and analysed data, and drafted this article. Noer Fauzi Rachman gave critical feedbacks through review cycle.

Batubara, B., Kooy, M., Van Leynseele, Y., Zwarteven, M. and Ujianto, A. (2022). Urbanization in (post-) New Order Indonesia: Connecting Unevenness in the city with that in the Countryside. *Journal of Peasant Studies*. doi.org/10.1080/03066150.2021.2000399.

Contributions: Bosman Batubara planned the research, collected and analysed data. Ari Ujianto helped to interview interlocutors/respondents in Jakarta. Margreet Zwarteven and Michelle Kooy supervised the work. Bosman Batubara drafted the article. Michelle Kooy, Yves Van Leynseele and Margreet Zwarteven improved the article – in terms of theory, analysis, and language – through review cycle.

Batubara, B. (2021). Swyngedouw's Puzzle: Surplus-value Production in Socionature. *Human Geography*, 14(2): 292-5.

Contributions: Venkat Ramanujam caught the grammatical and stylistic errors.

Batubara, B., Kooy, M. and Zwarteven, M. (2018). Uneven Urbanisation: Connecting Flows of Water to Flows of Labour and Capital through Jakarta's Flood Infrastructure. *Antipode*, 50(5): 1186-1205.

Contributions: Bosman Batubara planned the research, collected and analysed data. Margreet Zwarteven and Michelle Kooy supervised the work. Bosman Batubara drafted the article. Michelle Kooy and Margreet Zwarteven improved the article – in terms of theory, analysis, and language – through review cycle



*Netherlands Research School for the
Socio-Economic and Natural Sciences of the Environment*

D I P L O M A

for specialised PhD training

The Netherlands research school for the
Socio-Economic and Natural Sciences of the Environment
(SENSE) declares that

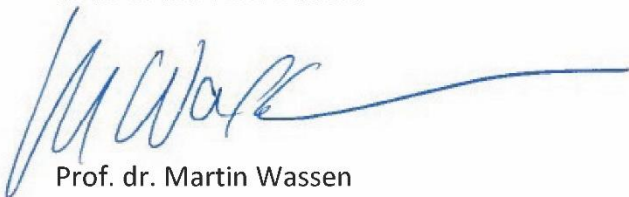
Bosman Batubara

born on 11th July 1980 in Tolang/Tapanuli Selatan & Indonesia

has successfully fulfilled all requirements of the
educational PhD programme of SENSE.

Amsterdam, 8th June 2022

Chair of the SENSE board



Prof. dr. Martin Wassen

The SENSE Director



Prof. Philipp Pattberg

The SENSE Research School has been accredited by the Royal Netherlands Academy of Arts and Sciences (KNAW)



K O N I N K L I J K E N E D E R L A N D S E
A K A D E M I E V A N W E T E N S C H A P P E N



The SENSE Research School declares that **Bosman Batubara** has successfully fulfilled all requirements of the educational PhD programme of SENSE with a work load of 55.8 EC, including the following activities:

SENSE PhD Courses

- o Environmental research in context (2018)
- o Research in context activity: 'Co-writing the funded, stakeholder involved NWO proposal "GroundUp"(2018)'

Other PhD and Advanced MSc Courses

- o Relevant debates and issues and their relations to theoretical framework , CERES (2015)
- o Presentation of idea, CERES (2015)
- o Consequences of chosen methodology and research strategy for the research design, CERES (2015)
- o Qualitative and quantitative analysis, CERES (2015)
- o Presentation tutorials and proposal presentation, CERES (2015)

Selection of Management and Didactic Skills Training

- o Main organiser of four works at the Catholique/UNIKA University of Semarang and the State University of Semarang/UNNES in 2019
- o Organiser of the nationwide coalition of Indonesia's civil society on uneven access to water and the impact flood risk -Maleh Dadi Segoro Coalition (2019-2022)
- o Co-supervising three MSc students with thesis (2020)
- o Teaching in the MSc course 'Water Management and Governance' (2020-2021))

Oral Presentations

- o *Operationalizing a Political Ecology of Urbanization: Floods in Jakarta*. International Conference on Political Ecologies of Conflict, Capitalism and Contestation: On the meaning of nature of contested 21st century political ecologies, 7-9 July 2016, Wageningen, The Netherlands
- o *The sinking Jakarta: The socioecological crisis of land subsidence and the flood infrastructure fix*. Interuniversity Programme in Water Resources Engineering Alumni Event, 26 February-1 March 2018, Cuenca, Ecuador
- o *Situated urbanization: the country and the city in the (post-) New Order Indonesia*. The Journal of Peasant Studies Scholar-Activist Workshop-Writeshop, 1-7 July, 2019, Beijing, China.
- o *Extended Agrarian Question in Concessionary Capitalism: The 'Kaum Miskin Kota' Jakarta*. Conference on People, Power, Politics, Pandemics, and Other Perils in Southeast Asia. 21-24 October 2021, Online (Canada)

SENSE coordinator PhD education

Dr. ir. Peter Vermeulen



UNIVERSITY OF AMSTERDAM

This thesis aims to inform critical thinking of and acting on flood events and flood infrastructure development in Jakarta, to call attention to how they are deeply political. It explains how both the occurrence of flooding and the development of flood infrastructure in contemporary Jakarta are partly the result of, and in turn help to create a particular trajectory of Indonesia's (post-) New Order regime (1965-1998 and 1998-now) uneven urbanization. Equipped with 'political ecology

of urbanization' explanatory framework and 'ecologized dialectical method', this thesis repoliticizes, and opens possibilities on how to think through and confront, the uneven urbanization of (post-) New Order regime in its relation to the production of Jakarta's flood events and development of flood infrastructures involving human and nonhuman in the city and beyond, above and below ground.

This book is printed on paper
from sustainably managed
forests and controlled sources

